ARTIFICIAL INTELLIGENCE & BANKING

Applications, challenges, risks, best practices

April 18, 2024
Sponsors

Gold Level

Silver Level

Bronze Level

Contributors

Bankers Bank, Condor Consulting – John Byrne, the NBS Group
Participants

Host
• Dr. Kent Belasco, Director Commercial Banking Program & Associate Professor of Finance

Moderator
• Mr. Tom Grottke, the NBS Group

Keynote
• Mr. Nathan Lasnoski, CTO and Co-Founder, Concurrency
Speakers

Mr. Tom Eck  VP of Digital Transformation, Fiserv
Mr. Steve Nickolson  Partner & Director of Technology Services, the NBS Group
Ms. Sarah Grooms  SVP, Special Initiatives, Wintrust
Mr. Ryan Miller  VP & Sr. Counsel Innovation Policy, American Bankers Association
Mr. John Rose  Bank Examiner Artificial Intelligence & Machine Learning, Reserve Bank, Chicago
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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Institution</th>
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<tr>
<td>8:30 am</td>
<td>Welcome and Introduction</td>
<td>Dr. Kent Belasco, Marquette</td>
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<tr>
<td>8:45</td>
<td>Keynote Address</td>
<td>Mr. Nathan Lasnoski, Concurreency</td>
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<td>9:30</td>
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<td>Mr. Tom Eck, Fiserv</td>
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<tr>
<td>10:00</td>
<td>Q&amp;A Moderator</td>
<td>Mr. Tom Grottke, the NBS Group</td>
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<tr>
<td>10:15</td>
<td>Break</td>
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<tr>
<td>10:30</td>
<td>AI Applications &amp; uses</td>
<td>Mr. Steve Nickolson, the NBS Group</td>
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<tr>
<td>11:15</td>
<td>AI Compliance, governance, &amp; policy</td>
<td>Ms. Sarah Grooms, Wintrust</td>
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<td>11:40</td>
<td>AI Exam development &amp; regulation</td>
<td>Mr. Ryan Miller, ABA</td>
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<td>12:00</td>
<td>Q&amp;A</td>
<td>Mr. John Rose, Federal Reserve</td>
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<tr>
<td>12:30</td>
<td>Adjournment</td>
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**Platinum Level**

Wintrust

BMO

Todd & Camille Nicklaus

**Silver Level**

Waterstone Bank

Bank of America

Capital One

John J. Rynne, CAMS, ESQ.

**Bronze Level**

FNBC Bank & Trust

National Exchange Bank & Trust

Johnson Financial Group

PNC

Ixonia Bank

FIS

Baker Tilly
Mr. Nathan Lasnoski

Keynote Speaker

Chief Technology Officer and Co-Founder, Concurrency
Technology Drives Productivity Growth

(Worldwide GDP per capita, adjusted for inflation in 2011 dollars)

Sources:
Capabilities of AI

- Predictive Large Datasets
- Prescriptive Large Datasets
- Story Telling on Large Datasets
- General – Directed Activities
- Directed – Autonomous Activities
- Creative – Directed Activities
- General – Autonomous Activities
- Creative – Autonomous Activities

What we can do now
Future state
Framing the AI Journey
Domains of Impact to Consider

**COMMODITY**
(creating general impact from AI enabled products, such as M365 Copilot)

**MISSION-DRIVEN**
(creating direct ROI from data-enabled journeys with direct payoff)
## Common AI Concerns and Approaches

<table>
<thead>
<tr>
<th>Concern</th>
<th>Approaches</th>
</tr>
</thead>
</table>
| **Data Privacy Concern** | Deploy a private instance  
Limit data access  
Control data source |
| **Data Not Ready** | Work through use cases first  
Validate data readiness per use case  
Incremental data readiness |
| **Human Displacement** | AI is a force multiplier  
Disruption is an old topic  
Train and engage people |
| **Quality or Hallucination** | The basis of AI is test-ability  
Use confidence to control output  
AI + Human |
| **Bias** | Manage data for use case  
Interpret possible biases  
Build controls for intelligent management |
Commodity Examples
Examples of commodity AI for every person

- Finding info and answers
- Summarizing meetings and action items
- Creative work
- Analytical work
- Planning their day
- Admin tasks
Never Create a Draft Again
Presentation Prep

FactSet Research Systems Inc. (FDS-US)

Business Description

FactSet Research Systems Inc. engages in the provision of financial information and analytical applications. It offers equity, portfolio, quantitative, debt, fixed income, market, and sector analytics. The firm provides research management solutions, screening tools, industry analysis, reporting tools, and mobile solutions. It operates through the following geographical segments: U.S., Emea, and Asia-Pacific. The company was founded by Howard E. Wille and Charles J. Bloom.

Corporate Information

Headquarters: Norwalk, Connecticut, U.S.
Employees: 1,070
Website: www.factset.com
Exchange: NYSE
ICB Sector: Financials
ICB Industry: Capital Markets
Business Segment: Integrated Financial Information & Analytical Applications

Management

Milo Welch
Chief Executive Officer & Inside Director
Mark J. Heim
Chief Operating Officer & Executive Vice President
Sudha Reddy
Chief Financial Officer & Senior Vice President
Gail Sennett
Chief Technology Officer & Senior Vice President
Ryan Schiavone
Chief Information Officer
John W. McCormack
Executive VP, Global Sales and Client Services
Kareem D. Konde
Senior VP, Global Sales Operations
Raymond J. Booze
Secretary, Senior Vice President & General Counsel
Kathleen N. Crowley
Chief Human Resources Officer & EVP
Judith D. Waller
Senior Vice President & Corporate Secretary
Matthew L. O'Malley
Principal Accounting Officer & CFO
Kim Butler
Chief Financial Officer & Corporate Controller

Fiscal Year Ends: December 31
Get Smart Meeting Summaries

Leadership Sync - External - Asc...

Friday, February 23, 2024 11:30 AM - 12:00 PM

Content
No files were shared.

Meeting notes
- Clare talked about weekend plans with Brian and Alex before the meeting started. Clare then started the meeting and discussed a list of TBD servers with Brian. Clare will provide a list of what is listed as TBD and what they are doing with it next.
- Clare and Amer discussed T5, T12, and T11 comms for beta users. Bill will review the T-10 template and make necessary modifications.
- Clare, Ali, Amer, Daniel and Joseph discussed the timeline and budget for the project, and the importance of tracking smaller details. They also discussed setting up a tracking mechanism for server migration channels and working with Ellie to review the queue. Ali introduced himself as a technology operating partner and observer for HG team. No major decisions were made.

Follow-up tasks
- Clare Buss will follow up with Bill about the changes made to the T10 template.
- Clare Buss will reach out to the PM today to see if they can loop the migration team into the weekly voice sync on Wednesday the 28th.
- Clare Buss will send out the list of servers that are listed as TBD by...
Microsoft surveyed early users in our Copilot for Microsoft 365 Early Access Program to learn how they are using Copilot:

We also wanted to understand how valuable Copilot is to employees.

Early users told us once they’ve worked with Copilot, they don’t want to go back to working without it.
Mission-Driven Examples
Banking and Capital Markets

- Loan Origination Automation
- Customer Support Automation
- Knowledge Base
- Wealth Management Teams
- Next Best Action
- Multi-Generational Relationships
- Pitchbook Generation
- Insights
- Risk Management
- Claim Automation
- Fraud Detection
Two Types of Innovation

Incremental

Disruptive
As a [employee] employee, there are several important numbers to know about for your health plan. These numbers can help you understand your coverage and make informed decisions about your healthcare. Here are some key numbers to keep in mind:

1. Deductibles: Deductibles are the amount of money you must pay out of pocket before your health insurance starts covering your expenses. The deductible amount may vary depending on whether you are in-network or out-of-network. For example, in-network deductibles for employees are $500.[1]
2. In-Network Providers: In-network providers are healthcare professionals, hospitals, and facilities that have an agreement with your health insurance plan to provide services at a discounted rate. It’s important to know which providers are in-network to maximize your coverage and minimize your out-of-pocket expenses. Overlake is an in-network institution.[23]
3. Co-pays: Co-pays are fixed amounts that you pay for certain healthcare services, such as doctor visits or prescription medications. These amounts are typically lower than the full cost of the service and can vary depending on the specific service and your health plan. Be sure to check your plan documents for the co-pay amounts for different services.
4. Out-of-Pocket Maximum: The out-of-pocket maximum is the maximum amount you will have to pay for covered healthcare services in a given year. Once you reach this limit, your health insurance will cover 100% of the remaining costs. It’s important to know your out-of-pocket maximum to budget for healthcare expenses and understand when your insurance will start covering all costs.

Remember to refer to your specific health plan documents for the most accurate and up-to-date information about your coverage and benefits.[123]
The image you sent is a screenshot of a financial management software interface. It shows your income, expenses, savings, and cash flow for October 2023, as well as a Sankey diagram of your spending categories.

Some non-obvious conclusions that can be drawn from this image are:

- You have a steady income and are managing your expenses well, as indicated by the positive cash flow and savings. However, there is a projected decline in cash flow in the upcoming months, which could affect your financial stability.
- You spend a large portion of your income on services, which could include subscriptions, memberships, utilities, insurance, etc. You may want to review these expenses and see if you can reduce or eliminate some of them to save more money.
- You have a high savings rate of 33.3%, which is above the average of 13.6% in the US. This suggests that you are financially savvy and have a long-term plan for your money. You may have some specific goals or investments that you are saving for.
- You do not have any other sources of income besides your paychecks, which could make you vulnerable to income shocks or emergencies. You may want to diversify your income streams by exploring other opportunities such as side hustles, passive income, or investing.
What is are non-obvious conclusions from this image?

Analyzing the image: Privacy blur hides faces from Copilot

The table from the Monte Carlo Summary indicates that the couple's savings strategy is not successful in any of the simulated market conditions. Here's a breakdown of what the table reveals:

- **Upside Case (Outperform):** At the 97.5 percentile, the couple's total portfolio assets are negative at ($4,819,349).
- **Median Case (Moderate):** At the 50 percentile, the total portfolio assets are negative at ($7,103,239).
- **Downside Case (Underperform):** At the 2.5 percentile, the total portfolio assets are negative at ($8,762,318).

The fact that the Monte Carlo simulation is successful in 0% of the trials suggests that the couple's current savings and investment strategy is highly unlikely to meet their financial goals given the potential future market conditions. This implies that they may need to reassess their financial plan, possibly by increasing their savings rate, adjusting their investment strategy, or revising their retirement spending goals to improve the likelihood of success.

What percentage of portfolios have a greater than 25% chance of missing savings goals after considering the Monte Carlo summary?
Wealth Management Teams

- Wealth management lead working with focused areas
- AI functions as another “team member”
  - Research
  - Meeting Prep
  - Portfolio Analysis

- “Research this possibility for my customer”
- “Return this data about my customer’s portfolio”
- “Tell me about the most recent accidents for my customer”
- “What changes should I make to my customer’s portfolio”
- “Inform my team members about the schedule for the week”
Personalizing Customer Experiences with Next Best Action

- **Customer**
  - Historical account and behavior data
    - Digital events
    - Call transcripts
    - Product reviews
  - Chat messages
  - Purchases
  - Demographics

- **Behavior drivers & risk profile**
  - Quality
  - Risk
  - Price
  - Functionality

- **Next Best Action Engine**

- **Marketing communications**
  - BOGO offer
  - Phone call
  - Let lapse
  - Promo about X

- **Optimal actions**
Personalizing Customer Experiences with **Next Best Action**

- Lifetime value
- Engagement
- NPS
- Conversion
- Complaints
- Unsubscriptions
- Costs

Take the action that

Customer

Business Benefits

- Increases
- Decreases
Multi-Generational Relationships

- Optimized marketing campaigns
- Understanding of whole-family
- AI-Powered Drip Campaigns
- Plan proactive transitions
- Auto-generation of documents
- Combine with **Next Best Action**
Risk Management and Advising

- Determining potential risks in portfolio
- Understanding priorities for improvement
- Provide prescriptive guidance to clients
- Prioritize based on stage of life
Streamlining the Application Process

The mortgage application process has long been a daunting journey for many prospective homeowners. However, AI has emerged as a game-changer, streamlining this journey with the power of automation and natural language processing. Chatbots and virtual assistants, equipped with the ability to understand and process human language, now guide applicants through the maze of mortgage applications, answering questions, and providing personalized advice 24/7.

Average Savings of $2,000/Application
Customer Support

- Proactive prompting of missed items
- Interactive help
- Direct to self-help
- Escalate to person-directed

It’s great to meet you, Mateo!

We’ve transferred info from your 2022 tax return — no need to type everything out. Take a look and let us know if everything looks good.

First name: Mateo
Middle Initial: W
Last name: Chavez
Suffix: W
Date of birth: 08/12/1989
Marital status: Married

☐ This return is for a taxpayer who passed away.
☐ I’m legally blind or disabled.

Should I report my side gig?

Yes, the IRS requires you to report income earned from the gig economy, even if the income is:
- From part-time, temporary, or side work
- Not reported on an information return form — like a Form 1099-K, 1099-MISC, 1099-NEC, W-2 or other income statement
- Paid in any form, including cash, property, goods, or virtual currency
Customer Support

- Proactive prompting of missed items
- Interactive help
- Direct to self-help
- Escalate to person-directed
Human First AI Strategies
Two AI Program Lanes

Mission Driven Factory

Executive Alignment

Ideation Cycle ➔ Selection ➔ POC/Pilot ➔ Production ➔ Scaled Approach

Human First AI

Commodity

Art of Possible

Readiness Assessment ➔ Information Governance ➔ Adoption and Training ➔ Pilot Roll-out ➔ Scaled Adoption
Role Transition with Artificial Intelligence

Current Job
- 80% repetitive work
- 20% creative work

Next Job
- 20% repetitive work
- 80% creative work

Future Job
- 5% repetitive work
- 95% creative work
How to “get started in AI?”

Learn our Data Science Curriculum!?!?

Will impact less than .1% of your staff
AI Upskilling is NOT About Data Science

Everyone deserves an AI assistant
Adoption of AI is about skills, not roles
Not limited to technical skills
Re-awaken creativity
Requires growth mindset
Types of Roles Using Artificial Intelligence

Data Engineer
Works with a data scientist or analytics team to prepare data for future AI and analytics use cases.

Data Scientist
Creates trusted AI models that must have accuracy and precision.

AI Engineer
Uses foundational models to create value by applying and enabling within applications with customization.

AI Practitioner
Applies and cooperates with AI to create value in everyday work processes as the “expert on the business.”
Where to go from here?
Getting Started

• Persona-based Jobs to Be Done (what decisions do my teams need to perform)
• Predictions of information to inform decisions
• Prescriptions on action that normalize actions
• Analyze single portfolio to accelerate one workload
• Analyze greater portfolio to accelerate multiple workloads
Mr. Tom Eck
Senior Vice President, Digital Transformation
Fiserv
ChatGPT – An Overnight Success!

TIME IT TOOK COMPANIES TO REACH 100 MILLION USERS
History of AI – Not an Overnight Success

- **1950**: Alan Turing proposes the Turing Test
- **1956**: John McCarthy coins the term "Artificial Intelligence" at the Dartmouth conference
- **1957**: IBM’s Deep Blue beats the world champion Garry Kasparov at Chess
- **1961**: The WABOT-1, the first half-scale anthropomorphic robot, was built at Osaka University in Japan
- **1965**: Joseph Weizenbaum at MIT develops ELIZA, an early natural language processing computer program
- **1966**: The development of backpropagation prompts a resurgence in machine learning research
- **1969**: Sony introduces AIBO, a robotic pet dog that can move and express itself
- **1971**: IBM’s Watson wins the Jeopardy! challenge against human champions
- **1980**: Digital personal assistants, like Coppy from Microsoft, begin to appear
- **1999**: Geoffrey Hinton proposes the concept of “deep learning”
- **2002**: iRobot releases Roomba, a robotic vacuum cleaner
- **2006**: Google acquires DeepMind, and the term “AI” becomes mainstream
- **2011**: Google’s AlphaGo beats world champion Go player, Lee Sedol
- **2016**: AlphaGo Zero program from DeepMind learns to play Go without using any human games, relying purely on reinforcement learning
- **2017**: The AlphaGo Zero program from DeepMind learns to play Go without using any human games, relying purely on reinforcement learning
- **2018**: Google’s AI-based Duplex system demonstrates the ability to make human-like phone calls, complete with natural-sounding pauses, um’s and ah’s
- **2019**: AI begins to be used for real-time voice cloning, making it possible to copy a person’s voice after only a few seconds of listening
- **2020**: OpenAI introduces GPT-3, an even larger language model that can generate human-like text of remarkable quality
- **2021**: AI begins to be used in practical applications in multiple industries, from healthcare (mortality prediction and predictive analysis to entertainment (deafness and game development)
- **2022**: Quantum computing starts to be used in AI, promising faster computations for large-scale problems
- **2023**: AI ethics and regulation become major focus points as AI is integrated more deeply into everyday life, impacting decisions about privacy, job automation, and more
The Advent of Deep Learning and Foundation Models | How we got here

**Hardware:** GPU’s, TPU’s, Cloud

**Data:** easily, “freely” accessible, massive quantity

**Architecture:** highly scalable Transformer models

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**API Layer**

**Applications**
Exponential Scale Transforms How We Think About AI

Source: Microsoft’s vision for AI, May 2023
Exponential Scale Transforms How We Think About AI

- Current research is indicating training data quality is more important than data quantity and model size
- Models are going to get smaller and more efficient
- Once again, Data is King
- If you bring an idea, you gotta’ bring your data

Source: Microsoft’s vision for AI, May 2023
AI at Fiserv – Present State
## Current Industry Use Cases

### Financial Services Use Cases

<table>
<thead>
<tr>
<th>Contact center insights</th>
<th>Lead Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraud Detection</td>
<td>Market Surveillance &amp; Analysis</td>
</tr>
<tr>
<td>Document Analysis</td>
<td>Document Translation and Preparation</td>
</tr>
</tbody>
</table>

Source: Microsoft's vision for AI, May 2023
AI @ Fiserv Current State

Illustrative AI Powered Experiences at Fiserv

1. Client Service
   Leveraging AI to further scale differentiated, personalized experiences
   - Client360
   - MAVE Virtual Assistant

2. Fraud & Security
   Powering Next-Gen Fraud Products using AI & Machine Learning
   - Advance Defense
   - Fraud Detect

3. Intelligent Process Automation
   Driving Operational Excellence, Process Transformation, and Optimization
   - Robotic Process Automation
   - Business Process Workflow

4. Developer Enablement
   Leveraging AI to accelerate the delivery of market-leading innovation for our clients
   - Clover DevBot
   - Dev Studio Chatbot
Accelerating Safe & Responsible AI at Fiserv
AI Acceleration and Governance Enablement
# Technology Innovation Enabling Operational Excellence @ Fiserv

## Strategic Focus Areas

<table>
<thead>
<tr>
<th>Quality</th>
<th>Service</th>
<th>Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous improvement of our software, solutions, and execution for clients</td>
<td>Focus on delivering commitments and being responsive to client needs and requests</td>
<td>Transforming and modernizing our platforms, operating systems, and solutions</td>
</tr>
</tbody>
</table>

### Quality
- Accelerating Fiserv's Cloud Transformation
- Strategic Infrastructure Modernization
- Operational Stability & Resiliency
- Enhanced Cyber Security Program

### Service
- Client Service Innovation and Transformation
- Accelerating the use of AI and automation across Fiserv
- Client Commitment Tracker
- Client360 Client Engagement Platform

### Innovation
- Delivering Market-Leading Innovation to Our Clients
- Accelerating Revenue and Optimizing Client Delivery
- Enhancing Client Delivery through Data Driven Insights
- Maximizing Synergies from Strategic Acquisitions (i.e. Finxact)
By centralizing governance, code, models and blueprints we can accelerate the use of safe and responsible AI both within Fiserv as well as acting as a trusted advisor to our clients.

Organizing the first phase of the AI Acceleration Hub across 6 parallel workstreams:

1. **Governance**
   - Defines the rules of engagement with oversight across all AI-related projects across Fiserv

2. **Engineering**
   - Technical development of Blueprints, Frameworks, Sandboxes, and proprietary Fiserv trained models

3. **Safety & Oversight**
   - Enabling responsible AI via oversight from key stakeholders (i.e. legal, risk, compliance, cyber, ethics)

4. **Machine Learning Operations**
   - Responsible for Model training and deployment Monitoring, DevOps, and AI Quality Control

5. **Internal Support / Enablement**
   - Enabling the benefits of AI across Fiserv via training & Hackathons, AI lab, and Internal Consulting for ROI

6. **Client Support / Enablement**
   - Expanding reach of Fiserv’s AI capabilities and expertise for clients and new revenue streams
Mr. Steven Nickolson
Partner & Director of Technology Services
the NBS Group
The Dynamic Duo: Artificial Intelligence and Banking

Steve Nickolson
Partner, Director of Technology Services
The NBS Group
Introduction

With its ability to process vast amounts of data, identify patterns, and make informed decisions, AI is reshaping the landscape of financial institutions worldwide.

Understanding AI in Banking: Artificial Intelligence encompasses a spectrum of technologies, including machine learning, natural language processing, and predictive analytics.

In banking, AI is utilized to streamline operations, enhance customer experiences, mitigate risks, and drive innovation.
Applications of AI in Banking

Fraud Detection and Prevention
Customer Service and Personalization
Credit Scoring
Risk Management and Compliance
Algorithmic Trading
1. Fraud Detection and Prevention

- AI algorithms analyze transactional data in real-time, flagging suspicious activities and patterns indicative of fraudulent behavior. By leveraging machine learning, banks can continuously refine their fraud detection mechanisms, staying ahead of evolving threats.
2. Customer Service and Personalization

• Chatbots powered by AI algorithms handle customer inquiries efficiently, providing round-the-clock assistance. These virtual assistants offer personalized recommendations, assist with account management, and streamline the customer support process, enhancing overall satisfaction.
3. Credit Scoring and Loan Approval

• AI algorithms assess creditworthiness by analyzing diverse data points, including transaction history, spending patterns, and social media activity. This enables banks to make more accurate lending decisions, expanding access to credit while minimizing default risks.
4. Risk Management and Compliance

- AI-powered predictive analytics models assess market risks, identify potential vulnerabilities, and enhance regulatory compliance. By automating compliance processes and monitoring transactions for suspicious activities, banks mitigate operational risks and ensure adherence to regulatory standards.
5. Algorithmic Trading

• AI algorithms execute trades based on market trends, historical data, and complex algorithms

• These automated trading systems optimize investment strategies, mitigate risks, and capitalize on emerging opportunities in real-time, driving higher returns for investors

• AI-driven predictive analytics models forecast market trends, assess investment opportunities, and optimize portfolio management strategies
Despite its transformative potential, integrating AI into banking operations presents several challenges. These include data privacy concerns, algorithmic biases, regulatory compliance, and the need for robust cybersecurity measures. Addressing these challenges requires a multi-faceted approach, encompassing collaboration between banks, regulators, and technology providers.
More Challenges and Considerations

• A recent article published by American Banking reflected that a third of banks ban employees from using gen AI.
• About 15% said they have completely banned the use of generative AI algorithms that can be used to create new content — for all employees. Another 20% said they restrict use of gen AI to specific employees for limited functions or roles; another 26% said they don't ban gen AI today, but they are considering putting a policy in place. Asked if they're going to loosen or remove employee restrictions on publicly available generative AI tools in the next year, 39% said no; 57% said maybe.
Broader AI Fears

- Even though more traditional forms of AI like machine learning, neural networks and natural language understanding have been used in banking for decades, surveyed bankers still have worries about the rising use of all kinds of AI.

- Most — 70% — say they fear a loss of personal touch with customers, for instance. More than half (57%) of bankers surveyed said they're concerned that AI could introduce new ethical concerns and biases. Just under half (47%) worry about job losses.

- Half of the surveyed bankers worry about skills degradation, reduction in critical thinking or analytical skills due to the use of AI, causing a brain drain.

- 75% of bankers said stronger guardrails need to be in place to govern the use of AI in banking.

- Regulatory risk is another ever-present worry. "Generative AI requires significant oversight, and that is not in place,“

Conclusion

• In the dynamic landscape of banking, Artificial Intelligence stands as a catalyst for innovation, efficiency, and customer-centricity.

• By harnessing the power of AI technologies, financial institutions can unlock new opportunities, mitigate risks, and deliver unparalleled value to customers.

• As AI continues to evolve, its integration into banking operations will shape the future of finance, driving greater accessibility, transparency, and sustainability in the global economy.
Steve Nicholson
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snickolson@thenbsgroup.com
thenbsgroup.com
Ms. Sarah Grooms

Senior Vice President, Special Initiatives

Wintrust
Disclaimer: This is a nascent space, and nothing I say should be taken as anything other than one person’s opinions. Certainly nothing I say should reflect negatively on Wintrust Financial Corporation, especially if you are seeing this and are employed as a banking industry regulator.
The need for AI capabilities

“The need for financial institutions to quickly operationalize their AI capabilities has moved beyond important to imperative. More than supporting risk and fraud analysis and increased productivity, a higher level of AI maturity at banks and credit unions will be a competitive differentiator, increasing business value across the organization.”

-Jim Marous, Co-Publisher, The Financial Brand
August 10, 2022
AI in the financial services industry today: limited

- **Cybersecurity** tools have long incorporated AI’s ability to identify patterns to predict and identify fraudulent behavior, making it easier to mitigate cyberattacks.

- Pattern recognition is also helping banks detect, document and fight against potential instances of money laundering.

- **Chatbots** have had various use cases for quite some time, and should now evolve as tools capable of searching information and serving it to the customer or employee trying to provide excellent, timely, accurate service.

Source: Arizent, 2024 Unleashing the Power of AI
American Banker Survey
Q: How would you describe the expected pace of GenAI adoption at your organization over the next 12 to 18 months?

<table>
<thead>
<tr>
<th>Description</th>
<th>Global/National bank ($100B+)</th>
<th>Regional/Midsized bank ($10B-$&lt;100B)</th>
<th>Community bank (&lt;$10B)</th>
<th>Credit union</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>We are moving forward aggressively across the broader organization</td>
<td>6%</td>
<td>11%</td>
<td>3%</td>
<td>2%</td>
<td>12%</td>
</tr>
<tr>
<td>We are focusing on small-scale implementations for specific tasks or functions</td>
<td>13%</td>
<td>20%</td>
<td>17%</td>
<td>27%</td>
<td>24%</td>
</tr>
<tr>
<td>We are taking an incremental approach, starting with small pilot projects</td>
<td>35%</td>
<td>20%</td>
<td>61%</td>
<td>47%</td>
<td>38%</td>
</tr>
<tr>
<td>We are still learning, collecting information</td>
<td>26%</td>
<td>40%</td>
<td>61%</td>
<td>47%</td>
<td>38%</td>
</tr>
<tr>
<td>We have no plans to use</td>
<td>13%</td>
<td>12%</td>
<td>11%</td>
<td>7%</td>
<td>13%</td>
</tr>
<tr>
<td>I am not sure</td>
<td>7%</td>
<td>12%</td>
<td>12%</td>
<td>6%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Implementing (NET): 55% 40% 28% 40% 37%

Source: Arizent, 2024 Unleashing the Power of AI
American Banker Survey
Q: In what areas is your organization using or likely to use GenAI to support your business over the next 12 to 18 months?

Source: Arizent, 2024 Unleashing the Power of AI
American Banker Survey
Q: How concerned are you about the following as potential risks to your business from using GenAI?

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Don't know enough to know if that should be a concern</th>
<th>Not at all concerned</th>
<th>Not very concerned</th>
<th>Somewhat concerned</th>
<th>Very concerned</th>
<th>Very/Somewhat concerned (NET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonsensical or inaccurate information (e.g., hallucinations, misinformation)</td>
<td>7%</td>
<td>10%</td>
<td>39%</td>
<td>41%</td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Bias creeping into models/decision making</td>
<td>9%</td>
<td>9%</td>
<td>44%</td>
<td>36%</td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>Difficulty explaining/auditing algorithms</td>
<td>9%</td>
<td>11%</td>
<td>49%</td>
<td>29%</td>
<td></td>
<td>78%</td>
</tr>
<tr>
<td>Degradation of client trust and transparency</td>
<td>9%</td>
<td>12%</td>
<td>41%</td>
<td>36%</td>
<td></td>
<td>77%</td>
</tr>
<tr>
<td>Exposing customer data</td>
<td>9%</td>
<td>13%</td>
<td>40%</td>
<td>36%</td>
<td></td>
<td>76%</td>
</tr>
<tr>
<td>Providing another point of vulnerability for hackers/cyberattacks</td>
<td>9%</td>
<td>6%</td>
<td>12%</td>
<td>37%</td>
<td>36%</td>
<td>73%</td>
</tr>
<tr>
<td>Running afoul of regulatory requirements</td>
<td>12%</td>
<td>13%</td>
<td>40%</td>
<td>31%</td>
<td></td>
<td>71%</td>
</tr>
<tr>
<td>Risk of copyright infringement</td>
<td>10%</td>
<td>6%</td>
<td>19%</td>
<td>35%</td>
<td>30%</td>
<td>65%</td>
</tr>
<tr>
<td>Increased risk of fraud</td>
<td>7%</td>
<td>5%</td>
<td>23%</td>
<td>39%</td>
<td>26%</td>
<td>65%</td>
</tr>
<tr>
<td>Difficulty realizing ROI from AI investments</td>
<td>15%</td>
<td>9%</td>
<td>32%</td>
<td>31%</td>
<td>13%</td>
<td>44%</td>
</tr>
</tbody>
</table>

Source: Arizent, 2024 Unleashing the Power of AI
Generative AI in the financial services industry soon: What could it be?

- Fulfill the unmet promises of “Big Data,” particularly as it relates to unstructured data sets
  - CRA
  - Policies and procedures
  - Speeding renewals and reviews
  - Lowering credit losses/sharpening underwriting – internal data

- Improve financial standing
  - Increase financial inclusion by incorporating non-public repayment factors (flip side of the bias coin)
  - Overlay on all spending to find budget categories in one login (tax-time help too)

- More timely, accurate pattern recognition of spending and searching habits that could lead to better “next offer” to help clients reach their goals.

- Automated rule-update engine for models to comply with ever-changing regulations – risk management could be a top use case!
Regulatory Risk

“There’s a real risk that we have a cyber arms race using generative AI with defenders and attackers in a constant struggle,” Barr said. “So we do need to make sure that we are, and banks are, investing in the kind of technology that is useful [to guard against cyber attacks].”

-Michael Barr, Federal Reserve Vice Chair for Supervision

“[AI] might provide incorrect information or might fail to identify that a customer is invoking their federal rights or might fail to protect their privacy.”

-Rohit Chopra, Director, Consumer Financial Protection Bureau

“With AI, fraudsters have a new tool to exploit... they may do it in a narrowcasting way, preying upon our personal vulnerabilities.”

-Gary Gensler, Securities and Exchange Commission Chairman
Model risk, hallucinations, bias...
How do we achieve the promise “safely and soundly”?

- Collaborate internally
- Consider strategically, enterprise-wide
- Seek outside expert advice
- Test and Validate
- Use Appropriate Controls
- Constantly Document and Re-document
- Transparency, including plain language
- Order of operations is important – internal, private, non-client data to start
- Governance/Risk/Compliance (“GRC”) tools are already available to help
Mr. Ryan Miller
Vice President & Sr. Counsel, Innovation Policy
American Bankers Association
Deployment of AI Applications via Banks’ Risk Management Framework

Presented by:

Ryan T. Miller
VP & Senior Counsel of Innovation Policy
American Bankers Association
Changing Bank Organizational Structures

Driven by:

- Technological Advancement
- Evolving Consumer Behavior
- Shifting Regulatory Expectations
ABA AI Working Group

Comprised of:
- Banks of all sizes
- All roles & responsibilities

This promotes understanding of:
- AI deployment throughout the financial services ecosystem
- Cross-functional approach to risks and mitigants
Importantly, AI deployment occurs within a risk management framework subject to regulatory oversight.

Model Risk Management Expectations

▪ Federal Reserve SR 11-7
▪ OCC Bulletin 2011-12
▪ FDIC FIL 22-2017
▪ Interagency 21-8
Applicable Laws, Regulations, and Guidance

Most existing laws and regulations are technology neutral; however, they may be applied inconsistently due to ambiguous regulatory expectations.

**Joint statement** from the CFPB, DoJ, EEOC, and FTC. AI models must comply with current consumer protection and anti-discrimination laws and the lack of specific AI-specific laws is not an excuse.

**Advisory** from CFPB on “Chatbots in consumer finance,” flagging some of its concerns regarding the use of AI technology when interfacing with customers.

Third Party Risk Management guidance = principles-based.

**Circular 2023-03**: Adverse action notification requirements and the proper use of the CFPB’s sample forms provided in Regulation B.

**Section 1033 Proposed Rule**: data recipients restricted to “reasonably necessary” standard in using shared information, could impact data used to train AI models.

**FCRA SBREFA Outline**: proposed limits on so-called data brokers.
What sorts of risks stem from AI applications?

• Bias- does the output unfairly discriminate?
• Transparency- is it clear that AI is being used?
• Explainability- can you explain what the AI is doing?
• Intellectual Property- who owns AI outputs?
• Cyber and fraud (offense and defense)- how to improve efforts to safeguard the bank, and how are bad actors leveraging AI to commit wrongdoing?
• Privacy- the soft underbelly of AI is the training data. This has been the target of GDPR actions as well as lawsuits under the California Privacy Rights Act.
• Reputational- how does the public feel about the usage of AI?
• Third Party Risk Management- a big one. Most banks do not develop their own models; rather, they obtain them from vendors. Thus, it is vital to be able to explain the model as well as how third parties use AI in their own operations.
Emerging Industry Positions

• We need a common lexicon and understanding of the AI ecosystem;

• We should have an industry-based approach to minimize the impact to banks that already have a history of complying with laws and regulations related to AI;

• Regulations should be technology-neutral, risk-based and tailored to particular use cases;

• We should have a federal standard to avoid a state patchwork that leads to duplicative compliance burdens and inconsistent levels of consumer protection.
Questions?

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Q&A
THANK YOU FOR JOINING US TODAY!!

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“a new generation of bankers”