

Powering NVF's Future with Gen-AI

Team Members:

Michael Cundiff

Noelle Lee

Aishwarya Kondaparthi

Aditya Nirwan



AGENDA

- Current Situation
- Recommendations
- Implementation
- Timeline
- Financial Analysis
- Risks and Mitigation
- Conclusion

SCALING GEN-AI WITH FISCAL PRUDENCE AND ETHICAL RESPONSIBILITY

NVF Bank is a digitally progressive traditional institution with 400+ AI/tech experts, a \$235M annual IT budget, and leadership divided between aggressive AI transformation advocates and ROI-focused conservatism.

NVF is torn between two risky paths:
Full-scale AI rollout (high cost, major disruption)
Slow, ROI-focused adoption (safer but may fall behind competitors).

How can NVF deploy enterprise-wide Gen-AI to lead the market while ensuring financial viability, ethical use, workforce readiness, and strategic alignment?

FROM PILOT TO ENTERPRISE AI: NVF'S 4-PHASE ROLLOUT PLAN

Phase 0 – Foundation:
Establish governance, compliance, and workforce readiness to enable sustainable AI adoption.

Phase 1 – Pilot:
Launches 5 focused AI pilots to improve service speed, reduce back-office effort, and boost fraud detection.

Phase 2 – Scale:
Expands successful pilots into operations with smarter routing, advisory, and decision tools—while monitoring model fairness.

Phase 3 – Govern:
Integrates AI oversight into daily workflows with automated compliance, full traceability, and future-ready controls.

ENSURES AN ETHICAL, AND FUTURE-READY FOUNDATION FOR NVF'S ENTERPRISE-WIDE GEN-AI TRANSFORMATION

Data Readiness for Gen-AI Adoption

Responsible AI Training for Teams

Technology Assessment

AI Governance & Guardrails Setup

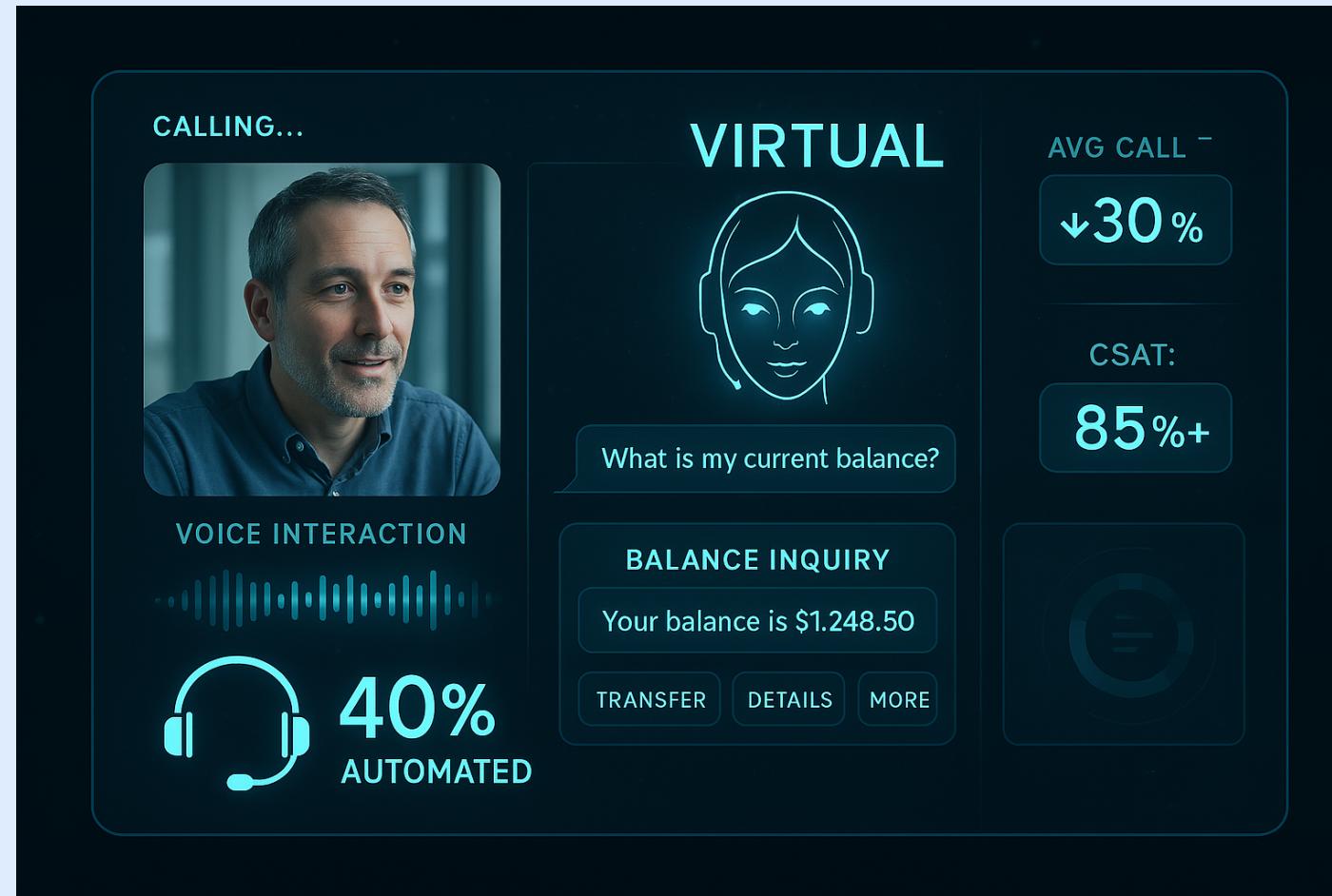
THESE GEN-AI TOOLS ENHANCE CUSTOMER EXPERIENCE BY RESOLVING QUERIES INSTANTLY, AND OPTIMIZING HUMAN RESOURCE EFFICIENCY

Voice Bot for Tier-1 Calls

- Function: Answers balance, loan status, branch hours via AI voice
- Use Case: Handles routine customer calls instantly through AI voice, reducing wait times and agent load.

Impact:

- 40% calls handled without human (interface.ai, 2023)
- Call handling time ↓ 30% (fluid.ai, 2023)
- CSAT ≥ 85%



BY BLENDING 24/7 DIGITAL SUPPORT WITH SMART IN-BRANCH KIOSKS, NVF ENHANCES CONVENIENCE, CUTS QUEUES, AND MEETS CUSTOMERS WHERE THEY ARE

Self-Service VFA Kiosks & Video Booths

- **Function:** AI-powered touchscreens & remote video help in 2 branches
- **Use Case:** Account services, rates, mini-statements, video advisor
- **KPI Highlights:**
 - Queue length ↓ 20% (NCR Atleos, 2024)
 - ≥ 25% daily users adopt kiosks (The Financial Brand, 2024)
 - Avg video session rating ≥ 4.5/5

Chat-Based VFA (Web & App)

- **Function:** 24/7 AI chatbot for financial guidance in app/website
- **Use Case:** Answers product queries, helps compare options, supports goal planning
- **KPI Highlights:**
 - 30% chats handled by AI (ServisBOT, 2023)
 - In-app wait time ↓ 60% (CloudApper, 2025)
 - CSAT ≥ 85%

AI ENHANCES NVF'S FINANCIAL OPERATIONS BY ELIMINATING MANUAL INEFFICIENCIES AND STRENGTHENING FRAUD DEFENSE WITH SPEED AND PRECISION

Invoice Processing Automation

KPI Highlights:

Cycle time ↓ 80% (Ardent Partners, 2024)

Manual corrections < 2%
≥ 400 staff hours saved/month

- **Function:** AI reads and matches invoices to orders via Oracle + Vera AI
- **Use Case:** Eliminates manual entry, catches mismatches or duplicates

AI Fraud Detection

KPI Highlights:

Detection accuracy ≥ 90%
False positives < 5% (SAS, 2024)

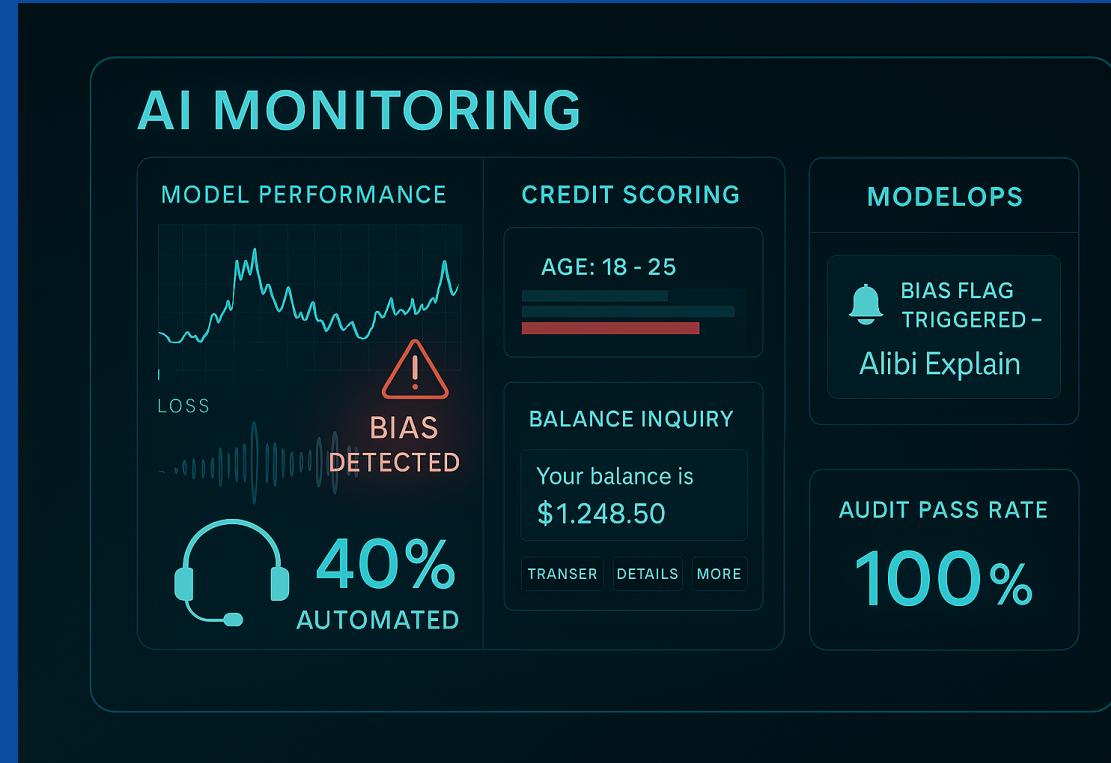
Time to flag ↓ 50%

- **Function:** Real-time transaction monitoring via SAS & Azure ML
- **Use Case:** Flags suspicious activity, adapts to fraud trends

CONTINUOUS DRIFT AND BIAS DETECTION ENSURES AI MODELS REMAIN FAIR, ACCURATE, AND COMPLIANT OVER TIME

Continuous Drift & Bias Detection (*ModelOps & Monitoring*)

- **Function:** Tracks changes in AI model behavior and flags bias or performance degradation in real time.
- **Use Case:** MLflow + Alibi Explain detect that a credit model is favoring certain demographics and alert the ModelOps team for review.
- **KPI Highlights:**
 - Drift incidents < 5%/month
 - Bias-audit pass rate = 100% (IBM, 2018)



SCALES GEN-AI ACROSS DIGITAL, BRANCH, AND LENDING CHANNELS, BOOSTING OPERATIONAL PRODUCTIVITY, AND DRIVING FASTER, MORE TRANSPARENT CUSTOMER DECISIONS

Gen-AI Portfolio Recommender (*Wealth Management*)

- **Function:** Delivers AI-generated personalized investment suggestions
- **Use Case:** Helps customers make informed portfolio decisions via app/browser
- **KPI Highlights:**
 - AUM ↑ 20% (Deloitte, 2024)

VFA-Staff Hybrid Advisory (*Top 10 Branches*)

- **Function:** Enhances human advisors with AI-powered assistance on CRM tablets
- **Use Case:** Supports efficient in-branch advisory for high-value clients
- **KPI Highlights:**
 - Advisory time ↓ 20% (Morgan Stanley, 2025)
 - NPS +15 pts

Explainable AI Credit Scoring (*Loan Origination*)

- **Function:** Uses AI to evaluate creditworthiness with transparency
- **Use Case:** Speeds up loan decisions while reducing approval disputes
- **KPI Highlights:**
 - Approval TAT ↓ 40% (Deloitte, 2024)
 - Appeals ↓ 35%

IMMUTABLE AI LOGS AND REAL-TIME ALERTS BOOST AUDIT EFFICIENCY AND TRANSPARENCY

Immutable AI Audit Logs & Real-Time Alerts (*Compliance & Audit*)

- **Function:** Records every AI decision with tamper-proof logs and compliance alerts via Splunk/Elastic dashboards.
- **Use Case:** During regulatory audits, teams instantly retrieve detailed AI usage logs to demonstrate transparency.
- **KPI Highlights:**
 - Audit completion time ↓ 50%



THIS ROADMAP BALANCES PILOT SUCCESS, OPERATIONAL DEPTH, AND FUTURE READY AI INNOVATION

THE NUMBERS SHOW WHY THIS MAKES BOTH OPERATIONAL AND FINANCIAL SENSE

Just four levers: voice-bot, chat-VFA, invoice AI, and a trimmed Wealth-VFA, generate \$14.8 m of savings in Year 1 and ramp to \$46.8 m by 2029.

ROI is 141%

The company
will make its
money by Q1
2028

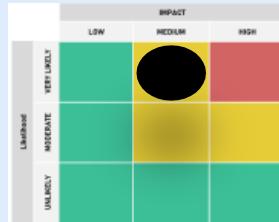
NPV is \$53M
after 5 years

PREPARING THE WAY FOR GEN AI DEPLOYMENT BY ADDRESSING RISKS BEFORE THEY EMERGE

RISK

Fear of change may hinder adoption by employees.

DEGREE



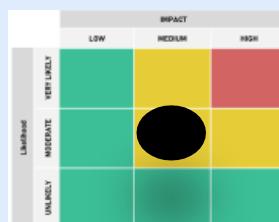
Continued over reliance on legacy systems.



Tech team's high workload risks burnout, delays, turnover.



Technology aging quickly.



MITIGATION

Start Phase 0 with training and education to boost confidence, explain AI clearly, and gain early support.

Ensure compatibility between modern and legacy systems through testing before roll-out.

Phased rollout allows teams to distribute workload and stagger projects.

Using third-party AI tools gives NVF flexibility to switch or upgrade as tech improves.

NVF'S PHASED GEN-AI STRATEGY TRANSFORMS EVERY TOUCHPOINT, DELIVERING SUPERIOR SERVICE, MEASURABLE ROI, AND UNSHAKEABLE TRUST

- **Unlock Phase 2 Scaling:** Mobilize cross-functional teams to roll out AI voice, chat, and decision-support tools bank-wide by Q4 2026.
- **Stand Up AI Governance Council:** Charter an executive council to oversee ethics, risk, and performance, meeting monthly to validate KPIs and address drift.
- **Fuel Innovation Pipeline:** Invest in R&D for next-gen use cases, multilingual support, executive “What-If” analytics, and deeper personalization.

Q&A

Thank You For Listening

APPENDIX

IMPLEMENTING GEN-AI IN THE FRAUD DETECTION PROCESS

- Identifies deviations and unusual patterns that indicate fraud within seconds
 - McKinsey claims that AI can reduce fraud detection costs by 30%
 - Detection becomes more accurate as the model adapts and learns from current data
- Instantly generates a summary of the data and explain why the transaction was risky or flagged
 - Creates a concise, easy-to-read summary of the transaction
 - Transforms raw data into a clear rationale, articulating why a transaction is flagged
- Increases accuracy and decreases false positives
 - Forbes reports that AI increased fraud detection accuracy by 50%
 - Reduction in fraud loss and operational costs while increasing customer satisfaction

FRAUD DETECTION: A HIGH-IMPACT APPLICATION OF AI

- Nearly 70% of banks reported an increase in consumer and business fraud
 - Fraud is only increasing as banking shifts to digital channels
 - Increased time spent on handling potential fraud cases
- Provides measurable results with direct financial impact
 - Clear KPIs: Fraud loss avoided, false positive rate, operational costs, and ROI
 - Direct impacts on both revenues and costs
- Increase customer trust and satisfaction
 - Increased accuracy and fewer false positives give customers peace of mind
 - Improved communication in high-stress moments

WHAT PROVEN AI CHATBOTS CAN DELIVER

- Customer-facing virtual assistant
 - Bank of America's Erica → 20 million active users; 2.5 billion interactions since launch in February of this year.
- Internal IT-support bot
 - SEB Bank's Amelia pilot answered 4 000 chats from 700 employees in 3 weeks and resolved ≈ 50 % without human help.
- 24/7 coverage
 - Chatbots handle unlimited, round-the-clock sessions, supporting NVF's goal to digitize 95 % of interactions.

ROADMAP FOR CHATBOTS

- The bots can be implemented through different phases:
- Phase 1
 - FAQ coverage + balance queries; route anything else to a human.
 - Embed FAQ chatbot in mobile app and a Teams IT bot.
- Phase 2
 - Add card controls, simple transfers, device unlocks.
- Phase 3
 - Fine-tune LLM with chat logs.
 - Integrate with core banking & ServiceNow APIs.

AUTOMATING DOCUMENT PROCESSING IN LOAN UNDERWRITING

- Hours of manual data entry, re-keying and income math
 - JPMorgan Chase's COiN parses 12,000 commercial-loan contracts in seconds, eliminating 360,000 lawyer hours a year.
- Inconsistent calculations and audit headaches when income comes froming or self-employed borrowers.
 - Eagle Community CU slashed total underwriting time 65 % and standardized income calculations by using AI to analyze bank statements.
- Labour costs tied up in file shuffling.
 - HomeTrust Bank saves 8,500 staff-hours and US \$90,000 annually after deploying AI document automation

ROLLOUT MAP FOR IDP

- 90-day pilot (credit-card or personal-loan apps)
 - Shadow-run IDP (Intelligent Document Processing) on 10 % of applications.
 - Track extraction accuracy & manual-touch rate.
 - Success gate: $\geq 95\%$ field-level accuracy and $\geq 50\%$ reduction in manual touch-time.
- Months 4 - 6 : go live
 - Route 100 % of intake docs through the IDP engine.
 - Link extracted data to the AI credit-decision API
 - Roll out to personal loans & SME lines

MODERNIZING THE CREDIT-DECISION ENGINE

- Higher acceptance & revenue
 - Banks that embed next-generation credit-decisioning models report a 5-15 % lift in lending revenue
- Lower credit losses
 - Early adopters cut 20-40 % of credit losses through tighter risk separation
- Real-world proof: First Hawaiian Bank
 - Automated 55 % of credit-card decisions (up from 4 %) and gave 40 % of applicants an instant approval; total approvals rose ≈ 25 % without higher losses.

WHERE THE AI TOOL PLUGS INTO THE CREDIT MODEL

1. Online application (front end)	Keep as-is. Collect the same data plus any optional data available.
2. Loan-Origination System (LOS) - <i>credit-decision API</i>	Replace the rules-based scorecard call with a cloud AI-scoring service that returns: <ul style="list-style-type: none">• probability of default• a plain-English reason code for regulators.
3. Pricing & limit engine	Feed the model's risk score straight into your rate & credit-limit tables so low-risk customers auto-receive better terms.
4. Post-booking monitoring	Nightly (or weekly) re-score the entire portfolio; flag rising-risk accounts

SWOT ANALYSIS

Strengths

- **Proven CX impact:** voice bot automates 40 % of tier-1 calls and cuts handle time 30 %; kiosks trim queue length 20 % and chatbots slash in-app wait 60 %, all while keeping CSAT \geq 85 %.

- **Strong governance & compliance:** real-time drift/bias monitoring (100 % audit-pass goal) and immutable logs that halve audit effort.

Weaknesses

- **Change-management hurdles:** employee resistance, legacy-system dependency and potential team burnout flagged in the risk register.

- **Vendor & obsolescence risk:** heavy reliance on third-party AI plus fast tech cycles may cause lock-in or rapid ageing.

Opportunities

- **Scalable roadmap:** bank-wide deployment targeted for Q4 2026 and an AI-innovation pipeline (multilingual support, “what-if” analytics) open paths to new revenue and deeper personalization.

- **High-value use cases:** AI fraud prevention can cut loss-handling costs 30 %; document automation/next-gen credit models cut underwriting time 65 % and raise lending revenue 5-15 %.

Threats

- **Execution drag:** legacy architecture and slow governance have stalled similar bank AI programs, risking delays or overruns.

- **Rising fraud & regulatory scrutiny:** 70 % of banks already report higher fraud; any bias or breach could draw fines and damage trust.

FINANCIAL MODELS

Line Item	Build Cost (USD m)	Annual Run Cost (USD m)
Data lake & cloud foundation	\$1,000,000.00	\$500,000.00
AI staff retention + up-skilling	\$6,597,600.00	
AI governance & risk office	\$1,148,000.00	\$1,048,000.00
Enterprise AI platform licences	\$600,000.00	\$3,600,000.00
Employees training	\$5,940,000.00	
	\$15,285,600.00	\$5,148,000.00
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Costs		
Median pay of software engineers	131000	
Upskill boot-camps	774	
ATD 2025 State-of-Industry:	\$165 per learning hour	
AI Bot license	\$120 mid tier	
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Assumptions		
retention bonus	12%	
No. of bots (voice/chat)	2500	

FINANCIAL MODELS

Line Item	Build Cost (USD m)	Annual Run Cost (USD m)
Voice bot roll-out	\$ 2,880,000.00	\$ 1,220,000.00
Chat-based VFA	\$ 3,500,000.00	\$ 200,000.00
Smart-branch kiosks (50)	\$ 750,000.00	\$ 150,000.00
Invoice automation	\$ 400,000.00	\$ 400,800.00
Fraud AI platform (pilot)	\$ 500,000	\$ 720,000.00
Integration & data connectors	\$ 300,000.00	\$ 50,000.00
	\$ 8,330,000.00	\$ 2,740,800.00

Costs:

Cost per invoice	40.7
Cost per invoice with AI	3.34
Voice-bot variable fee	\$0.06 / min

Assumptions

Voice bot minutes	12 million
Voice bot tokens & support	\$ 500k
Invoices	120,000
Fraud detector cost per prediction	\$0.03
Voice bots	2000 seats
Chat-bot variable fee	\$0.04

FINANCIAL MODELS

Phase 2		
Line Item	Build Cost (USD m)	Annual Run Cost (USD m)
Wealth-VFA (web+app)	\$ 3,250,000.00	\$ 650,000.00
Enterprise MLOps	\$ 2,800,000.00	\$ 1,700,000.00
Credit early warning & treasury	\$ 2,500,000.00	\$ 335,000.00
Drift & Bias monitoring	\$ 1,400,000.00	\$ 800,000.00
	\$ 9,950,000.00	\$ 3,485,000.00
Phase 3		
Line Item	Build Cost (USD m)	Annual Run Cost (USD m)
Risk-based pricing & credit	\$ 2,900,000.00	\$ 1,000,000.00
Real-time fraud	\$ 1,300,000.00	\$ 1,800,000.00
Enterprise decision support	\$ 400,000.00	\$ 180,000.00
Compliance audit automation	\$ 600,000	\$ 335,000
	\$ 5,200,000.00	\$ 3,315,000.00
Costs		
Copilot license	\$30 per month	
AWS Fraud Detector	\$0.0075 / prediction over 100 k/mo & \$0.39 / train-h	
Workiva TEI study:	licence \$335 k Yr 1	

FINANCIAL MODELS

Year	Benefit (USD m)	Cap-Ex (USD m)	Op-Ex (USD m)	Net CF	Cumulative CF
2025 – Phase 0 (9 m)	0	15.3	5.1	-20.4	-20.4
2026 – Phase 1 (12 m)	14.8	8.3	2.7	3.7	-16.7
2027 – Phase 2 (15 m)	29.8	10	3.5	16.3	-0.4
2028 – Phase 3 (12 m)	44.8	5.2	3.3	36.2	35.8
2029 – Steady state	46.8	0	3.3	43.4	79.2

ROI	1.402116402
NPV	\$48.43
Payback period	3.011

SOURCES

- **Gen AI Voice Bot for Customer Calls**

- **Stat:** 30-50% reduction in average handle time.

- **Source:** Fluid.ai. (2023, November 13). *Voice-first AI is redefining banking customer support*. Retrieved July 28, 2025, from <https://www.fluid.ai/blog/voice-first-ai-is-redefining-banking-customer-support>

- **Stat:** 14% increase in issue resolution.

- **Source:** McKinsey & Company. (2023, June 14). *The economic potential of generative AI: The next productivity frontier*. Retrieved July 30, 2025, from <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier>

- **Stat:** 60% containment rate (calls handled without humans).

- **Source:** interface.ai. (2023, August 28). *Generative AI use cases in banking & real-world results*. Retrieved July 27, 2025, from <https://interface.ai/blog/generative-ai-use-cases-banking-real-world-results/>

- **Stat:** 28K → 120K users per month (points to CSAT score).

- **Source:** Yellow.ai. (n.d.). *UnionBank achieves 3x increase in self-serve users with AI automation*. Retrieved July 29, 2025, from <https://yellow.ai/case-study/unionbank-achieves-3x-increase-in-self-serve-users-with-ai-automation/>

SOURCES

•Kiosks (Interactive Teller Machines)

- **Stat:** 75% of users report a positive experience & 81% of users consider ITMs a “quick” experience (queue time).
 - **Source:** NCR Atleos. (2024). *What are consumers saying about interactive teller machines?* Retrieved July 27, 2025, from <https://www.ncratleos.com/insights/consumers-survey-interactive-teller-machine>
- **Stat:** Transferred approximately 75% of branch transactions to ITMs.
 - **Source:** The Financial Brand. (2024, May 20). *How two credit unions grew loan volume with ITM teller lines.* Retrieved July 30, 2025, from <https://thefinancialbrand.com/news/banking-branch-transformation/how-two-credit-unions-grew-loan-volume-with-itm-teller-lines-172249/> ed July 29, 2025, from <https://yellow.ai/case-study/unionbank-achieves-3x-increase-in-self-serve-users-with-ai-automation/>

•Chat-Based VFAs (Virtual Financial Assistants)

- **Stat:** 75% containment rate during business hours.
 - **Source:** ServisBOT. (n.d.). *Cenlar FSB increases containment rate with a mortgage servicing chatbot.* Retrieved July 29, 2025, from <https://servisbot.com/increase-containment-rate-case-study/>
- **Stat:** Reduced query resolution time by 60% (wait time).
 - **Source:** CloudApper. (n.d.). *AI chatbots in finance: Streamlining customer experience.* Retrieved July 28, 2025, from <https://www.cloudapper.ai/ai-assistant/ai-chatbots-in-finance-streamlining-customer-experience/>

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• Invoice Processing Automation

- **Stat:** Ardent Partners. (2024). *AP metrics that matter in 2024*. Tradeshift. Retrieved July 30, 2025, from <https://tradeshift.com/wp-content/uploads/2024/05/Ardent-Partners-AP-Metrics-that-Matter-in-2024-Tradeshift.pdf>
- **Stat:** 98.5% accuracy rate in data extraction.

- **Source:** Nividous. (n.d.). *Leading mortgage lender achieves end-to-end automation for complex loan origination and servicing processes*. Retrieved July 30, 2025, from <https://nividous.com/case-studies/leading-mortgage-lender-achieves-end-to-end-automation-for-complex-loan-origination-and-servicing-processes/>

• AI Fraud Detection

- **Stat:** Identify 95% of all fraud attempts.
- **Source:** SAS. (2024). *Swedbank: AI helps bank fight fraud and improve customer experience*. Retrieved July 27, 2025, from <https://www.payspacemagazine.com/wp-content/uploads/2021/03/swedbank-fraud-109404.pdf>
- **Stat:** Reduce false positive rates by 50% to 70%.
- **Source:** SAS. (n.d.). *FICO® Falcon® Fraud Manager with SAS®*. Retrieved July 29, 2025, from https://www.sas.com/content/dam/SAS/en_us/doc/whitepaper1/fico-falcon-fraud-manager-109559.pdf
- **Stat:** A reduction of over 98% in the total investigation lifecycle.
- **Source:** IBM. (n.d.). *European bank builds trust with safer payments*. Retrieved July 28, 2025, from <https://www.ibm.com/case-studies/european-bank-safer-payments>

SOURCES

- **VFA - Staff Hybrid Advisory**
 - **Stat:** Achieve 1.5 to 2.5 times higher net new asset growth.
 - **Source:** Deloitte. (2024). *The digital wealth manager of today*. Retrieved July 27, 2025, from <https://www.deloitte.com/content/dam/assets-zone3/us/en/docs/industries/financial-services/2024/us-the-digital-wealth-manager-of-today.pdf>
 - **Stat:** Advisors save 15% more time in the day.
 - **Source:** Morgan Stanley. (2025). *Artificial intelligence: A deep dive*. Retrieved July 30, 2025, from https://advisor.morganstanley.com/john.howard/documents/field/j/jo/john-howard/Artificial_Intelligence_deep_dive_2025.pdf
- **Explainable AI Credit Scoring**
 - **Stat:** Reduce loan application process time by 50%.
 - **Source:** Deloitte. (2024). *Unlocking the potential: Generative AI for financial services pioneers*. Retrieved July 29, 2025, from <https://www.deloitte.com/us/en/insights/industry/financial-services/generative-ai-financial-services-pioneers.html>
- **Continuous Drift & Bias Detection**
 - **Stat (Capability):** The framework provides over 70 metrics for detecting bias and 10 state-of-the-art algorithms for mitigating it, enabling a 100% bias-audit pass rate.
 - **Source:** IBM Research. (2018, September 18). *Introducing AI Fairness 360*. IBM. Retrieved July 28, 2025, from <https://research.ibm.com/blog/ai-fairness-360>

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