AI in Banking and Financial Services: Credit, Fraud, AML and Model Risk

1 – 5 August 2027
Dammam - Eastern Province five-star



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Technical depth: Practitioner · **Practical mode:** Case study

Introduction

Banks and financial institutions now rely on machine learning and generative AI for credit decisions, fraud detection, transaction monitoring and customer service, yet many deploy models faster than their risk, data and validation practices can keep up. The result is opaque decisions, rising false positives and model risk that surfaces only after customers are affected. This Core Concept course equips managers to select, sponsor and oversee AI use cases with recognised banking and AI standards. Participants work through multi-institution case material and leave with an AI Use-Case Assessment Pack for their own institution.

Course Objectives

- Assess where machine learning and generative AI create value across the banking value chain and rank candidate use cases by value, feasibility and risk
- Interpret the core model types and performance metrics used in credit scoring, fraud detection and transaction monitoring
- Apply AI to credit, financial crime, onboarding and customer processes while keeping decisions explainable to customers and reviewers
- Evaluate model risk, bias, drift and third-party dependency, and set controls proportionate to each model's tier
- Specify the data foundations an AI use case needs, using risk data aggregation principles
- Produce an AI Use-Case Assessment Pack that a model risk or steering committee can review

Target Audience

- Credit risk and lending managers responsible for underwriting and portfolio decisions
- Fraud and financial crime managers overseeing transaction monitoring and alert investigation
- Model risk, validation and risk analytics managers accountable for model governance
- Digital banking and customer experience managers deploying chatbots and personalisation
- Operations and transformation managers automating onboarding, payments and back-office processes
- Data and analytics managers who supply and govern the data behind banking models

Course Outline

Day 1: The AI Landscape in Banking and Financial Services

- AI Adoption Trends and Vulnerabilities Using the FSB Financial Stability Analysis
- Machine Learning, Generative AI and Agentic AI Use Cases Across the Banking Value Chain
- Banking Data Sources: Core Banking, Card, ISO 20022 Payment Messages and Alternative Data
- AI Maturity Self-Assessment for a Bank or Financial Institution
- Use-Case Portfolio Heat Map by Value, Feasibility and Risk

Day 2: Models, Metrics and Governance Standards

- Credit Scorecard Development: Weight of Evidence, Information Value and Logistic Regression
- Gradient Boosting and Anomaly Detection Models for Fraud and Transaction Monitoring
- Model Performance Metrics: Gini, KS Statistic, Precision-Recall and Confusion Matrix
- BCBS 239 Risk Data Aggregation Principles as the Data Foundation for AI
- ISO/IEC 42001 AI Management System and NIST AI RMF Functions in a Banking Context

Day 3: Applying AI to Core Banking Processes

- Machine Learning in Credit Underwriting and IFRS 9 Significant Increase in Credit Risk Signals
- AML Alert Triage Using Machine Learning and FATF Risk Indicators
- Generative AI Assistants for Relationship Managers, Contact Centres and Complaints Handling
- Intelligent Document Processing for KYC Onboarding and Trade Finance Documents
- Churn Prediction and Next-Best-Offer Models for Retail Banking

Day 4: Model Risk, Fairness and Resilience

- Model Risk Management Lifecycle: Inventory, Tiering, Independent Validation and Monitoring
- Explainability and Adverse Action Reason Codes Using SHAP Values
- Fairness Testing and Bias Treatment Aligned to ISO/IEC TS 12791
- Drift Monitoring with Population Stability Index and Champion-Challenger Testing
- Third-Party and Foundation Model Risk Under the Basel Committee Third-Party Risk Principles

Day 5: Case Work and the AI Use-Case Assessment Pack

- Retail Lending Case Study: Scorecard Versus Machine Learning Model Decision
- Card Payments Fraud Case Study: False Positive Reduction and Customer Impact
- AI Use-Case Charter Drafting for an Own Institution
- Model Risk Tiering and Control Plan Completion
- Steering Committee Presentation and Peer Challenge

Skills You Will Gain

- AI Use-Case Prioritisation
- Credit Scoring Model Interpretation
- Fraud Analytics Oversight
- Model Risk Governance
- AI Explainability Assessment
- Algorithmic Fairness Testing
- Risk Data Management
- Third-Party AI Risk Assessment

Why Attend This Course

- Return to work with an AI Use-Case Assessment Pack for a real initiative, already challenged by peers
- Question data scientists and vendors on model performance, explainability and drift using the metrics they use
- Recognise when a model decision cannot be explained to a customer or reviewer, and what to do about it
- Compare AI practice with managers from banks, insurers and finance companies in other countries

Conclusion

AI adds value to banking only when models are chosen for the right problems, built on sound data and governed so that their decisions can be explained and defended. This course moves from the use-case landscape, through the models and metrics behind credit, fraud and financial crime analytics, to the model risk, fairness and third-party issues that cause deployments to fail. The final day turns that material into an AI Use-Case Assessment Pack that participants take back to their steering or model risk committee.