Montana ANALYTICS

Enterprise Risk Management Advisory Service

Advisory Service to develop or enhance the internal Enterprise Risk Management program

Our Enterprise Risk Management Advisory service assists in the development and implementation of a comprehensive internal Risk Management program centered on our main principles of Governance Leadership, Measurement and Monitoring, Risk Assessment, and Performance Improvement. An established Enterprise Risk Management program should focus on all these areas.

Governance Leadership: Board and management oversight policies, procedures and risk limits. Developing an approach for supporting and embedding the risk strategy and team accountabilities.

Risk Assessment: Identifying, assessing and categorizing risks and controls to mitigate risks.

Measurement and Monitoring: Measurement, analysis, reporting, monitoring, and assurance activities to provide insights into risk management strengths and weaknesses.

Performance Improvement: A strong ERM function will not only identify and measure risks but will reduce costs and add value to the business.

ERM Model

Governance Leadership

Risk Assessment

Measurement & Monitoring

Performance Improvement

Management of risk is critical in the current environment:
- To make better decisions that enhance company profitability
- To prevent losses and stay ahead of competitors
- To protect your reputation and brand
- To satisfy regulatory authorities

Montana Analytics will partner with your Risk Leadership team to establish policies and procedures that are consistent with best practices and regulatory guidance.

Experience:
Our team is deeply committed to Enterprise Risk Management
- 25+ years of experience in leading Banking institutions
- 12+ years of independent Model Risk Management leadership
- Experience establishing ERM program implementations
- Experience working with all financial institution sizes

Value-Add:
Flexible advisory services focused on Enterprise Risk Management
- Gap Analysis of current Enterprise Risk Management Structure
- On-Demand risk management services (interim CRO function)
- Design framework for Enterprise Risk Management Program, including documentation standards for model risk management
- Develop Enterprise Risk Management Policy framework
- Provide Bank-wide Model Inventory and Risk Rating Methodology
- Establish framework standards for model validation
- Examine oversight of Business Lines, Finance and Treasury functions

Model Risk Management – Model Validation Service

Comprehensive regulatory compliant service provides a thorough independent assessment

Our industry-leading Model Validation Service delivers proven technical solutions that correspond to each point of the advisory bulletins as well as industry best practices. Montana Analytics personnel have been involved with developing, testing and validating complex risk models for over two decades. This program focuses on seven core components as highlighted by the primary financial regulators including FDIC, OCC, NCUA, and Federal Reserve. We provide a detailed report that comprehensively addresses each component with a high level-of-service in a short amount of time for a competitive price.

Our unique Test Case approach transparently details the steps taken to validate the model. Each specific Test Case includes a description of the tested components with a pre-established "expected" result, a summary of actual results and a clear conclusion. Recommendations are provided for model improvements based on best practices and alignment to regulatory standards. This rigorous and transparent approach provides model managers the detail needed to take corrective actions and is considered superior to minimalist methods that provide a qualitative opinion of a model.

Our program can be customized to fit your requirements or internal methods while still delivering the in-depth analysis for which our program has received numerous accolades. Constant and clear communication of results is also part of the great service and value Montana Analytics provides to its clients.

Our team is highly experienced with developing and validating credit, prepayment and interest rate analytics for all Bank fixed-income products. This includes loans, securities, derivatives, and deposits. Our prior model validation engagements have encompassed the validation of internally developed as well as all leading vendor models in virtually all financial risk functions. Montana Analytics has also developed challenger models for many Bank products.

Validation Services

Credit Risk	Market Risk	Specific Risks	Other Processes
CECL/ALLL	ALM	Credit Loss	MSR
Stress Testing	NIM	Interest Rate	Secondary Marketing
Economic Capital	IRR/NIR	Prepayment	Hedging
Basel	Deposit Modeling		Scorecards
	Security and Loan Valuation		FTP

Value-Add:

- Complete turn-key structured Model Validation Service
- Highly experienced analytical staff minimizes internal staff time
- Validation customized for the model and your requirements
- Aligned with regulatory guidance and industry best practices
- Complete transparent documentation of 50+ detailed Test Cases
- Results benchmarked to an alternative model
- Competitive pricing, excellent client service
- All solutions require minimal staff time

Analytical Model Development and Benchmarking Solutions

Custom model development and benchmark solutions for key functional areas and outputs

Identification, measurement and management of risk are critical today to maintain competitiveness and satisfy increasing regulatory demands. Analytical models that accurately predict performance will help you achieve these goals.

Montana Analytics offers specialized skills in model development and high-quality analysis from subject matter experts to assist you in meeting these goals. Our team is experienced in developing market risk models, credit loss models, interest rate models and analyzing derivatives. This experience extends to virtually all functional areas and financial instruments within financial services firms.

We specialize in rigorous analysis that includes probabilistic risk exposure modeling across a wide range of asset types for key risk management areas. Custom Solutions produced for: CECL, asset valuation, stress testing (CCAR/DFAST), economic capital, Basel models (PD, EAD, LGD), default management, loss mitigation, and consumer and commercial scorecards.

Value-Add:
- Provides accurate custom model output projections specific to Bank assets
- Provides independent benchmarking outputs for comparison
- Competitive pricing, excellent customer service
- All solutions require minimal staff time

Model Development, Benchmarking:

We offer Analytical Model Development solutions to create proprietary models for numerous consumer and commercial asset types. We develop, test and implement advanced analytics to support any initiative.

Our development efforts will be based on your data for custom calibration and can be supplemented by our vast data warehouse of PL-MBS/ABS securities and loans. This consists of over 2300 securities and 380 million observations on 12.7 million loans spanning 14 years.

Consumer	Commercial	Specific Risks	Modeling
Residential Mortgage	CRE	Credit Loss	CECL
Credit Card	C&I	Prepayment	Scorecards
Auto		Interest Rate	ALM
Other consumer			Stress Testing

Current Expected Credit Loss (CECL) Solutions

Custom analytical solutions in full compliance with CECL

CECL is a new accounting standard that is far more complex than prior ALLL standards, demanding more thoughtful efforts to implement effectively. Analytical solutions built using transparent and supportable assumptions will satisfy external stakeholders and provide management valuable information on future portfolio performance. Repeatable solutions with practical technology will control compliance costs.

Establishing practical CECL solutions is critical in the current environment:

- To satisfy all stakeholders and align with management expectations
- To prevent bloated projects with huge software and personnel costs

We specialize in developing analytical solutions suitable for your portfolio and management strategies. This includes numerous techniques such as roll-rate analysis, loss rate approaches, PD/LGD calculations, discounted cash flow models, and regression analysis. We've developed and validated such models across a wide range of asset types for usage in key functions within numerous financial institutions. Developing and implementing repeatable solutions suitable for an institution's size, available data, and management expectations is a key focus of our service.

Value-Add:
Custom services focused on your requirements:

- Practical and direct solutions from start to finish
- Design framework for CECL/ACL including models and assumptions
- Provides independent CECL benchmarking output for comparison
- Model Validation services

Montana Analytics will partner with you to establish a CECL/ACL framework consistent with FASB guidance and your requirements.

CECL/ACL Framework
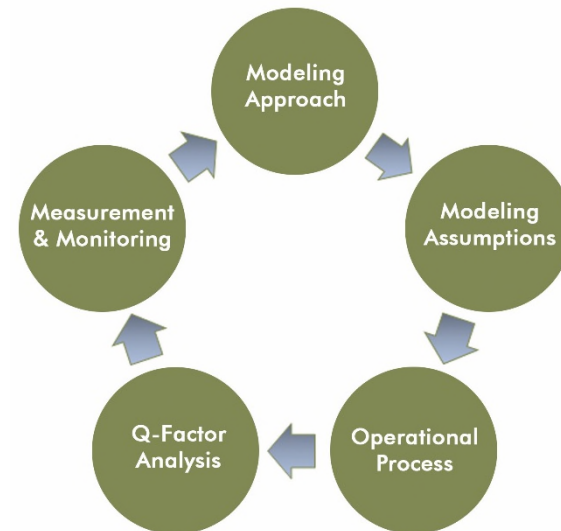
Why Choose Us?

- ☑ Deep experience with ERM and quantitative modeling
- ☑ Proven record of linking risk modeling with ACL analytics at various sized financial institutions
- ☑ Competitive pricing, excellent customer service