


Enterprise Risk - Credit Risk - Market Risk - **Operational Risk** - Regulatory Compliance - Securities Lending

INTRODUCTION TO OPERATIONAL RISK

Session 1




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TODAY'S INSTRUCTOR

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COURSE OBJECTIVES

- Define operational risk.
- Determine where operational risk fits relative to other risk types and why it is an increasing focus.
- Recognize the significance of the regulatory landscape.

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COURSE OBJECTIVES (CONT.)

- Gain familiarity with tools and techniques used by operational risk practitioners.
- Consider practical approaches for managing operational risk in a financial institution.

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COURSE OUTLINE

Module 5 – Practical Approaches

Modules 4 – ORM Tools

Module 3 – Organizational Issues

Module 1 – What is OR?

Module 2 – Regulatory Landscape (Basel II)

Process Risks Conduct Risks External Risks

Risk Identification Risk Policy Risk Mgmt & Reporting Risk Mgmt & Analysis Risk Mitigation Perform. Measurement

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MODULE 1 OBJECTIVES

- Examine what is meant by risk.
- Recognize and evaluate the regulatory definition of operational risk.
- Compare broad categories of operational risk to the current regulatory categorization.
- Be able to evaluate, discuss, and categorize several operational risk case studies.

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WHAT IS OPERATIONAL RISK?

- How do you define risk?
- How do you define operational risk?
- How does your organization address operational risk?
- What factors are driving an increased focus on operational risk within the financial services industry?

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RISK DEFINITION

- Risk assesses unexpected outcomes.
- Risk management manages unexpected outcomes.
- Unexpected outcomes are generally focused on earnings volatility.
- Risk is generally defined as unexpected earnings volatility.

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RISK DEFINITION (CONT.)

- However, there is a second component of risk: management of reputation, or brand, or corporate ethics.
- The first component focuses on hard dollar risks and the second on the perception of management's strength to sustain this earnings flow.

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WHAT IS RISK AND RISK MANAGEMENT?

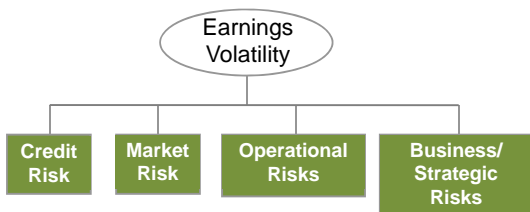


```
graph TD; Risk([Risk]) --> EV[Earnings Volatility]; Risk --> RR[Reputational Risk]; EV --- EV_desc[Management of the drivers of earnings volatility.]; RR --- RR_desc[Management of the perception of management strength and corporate culture.];
```

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DRIVERS OF EARNINGS VOLATILITY



```
graph TD; EV([Earnings Volatility]) --> CR[Credit Risk]; EV --> MR[Market Risk]; EV --> OR[Operational Risks]; EV --> BSR[Business/Strategic Risks];
```

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RISK CATEGORIES

- Credit risk arises from the potential that a borrower or counterparty will fail to perform on an obligation.
- Market risk is the risk to a financial institution's condition resulting from adverse movements in market rates or prices, such as interest rates, foreign exchange rates, or equity prices.

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RISK CATEGORIES (CONT.)

- Strategic risk is the risk of a loss arising from a poor strategic business decision.
- Reputational risk is the potential that negative publicity regarding an institution's business practices, whether true or not, will cause a decline in the customer base, costly litigation, or revenue reductions.

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RISK CATEGORIES (CONT.)

- Liquidity risk is the potential that an institution will be unable to meet its obligations as they come due because of an inability to liquidate assets or obtain adequate funding

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RISK CATEGORIES (CONT.)

- Legal risk arises from the potential that unenforceable contracts, lawsuits, or adverse judgments can disrupt or otherwise negatively affect the operations or condition of a banking organization and of course,
- Operational risk...

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DEFINITION OF OPERATIONAL RISK

- The commonly adopted Basel definition for operational risk:
- “. . . the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events. The definition includes legal risk but excludes strategic and reputational risk.”
- BIS website – <http://www.bis.org>

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WHAT ARE THE DRIVERS OF OPERATIONAL RISK?

- Process risks:
 - Execution, delivery, and process management.
 - Business disruption and systems failure.
- Conduct risks:
 - Clients, products, and business practices.
 - Employment practices and workplace safety.
 - Internal theft and fraud.

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WHAT ARE THE DRIVERS OF OPERATIONAL RISK? (CONT.)

- External risks:
 - External theft and fraud.
 - Damage to physical assets.

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MODULE 2 OBJECTIVES

- Review the current Basel II proposals:
 - Pillar I and the calculation of minimum capital requirements.
 - Pillar II and the Principles for the Sound Management of Operational Risk.
 - Pillar III and the qualitative/quantitative disclosures.
- Compare Basel II and Sarbanes-Oxley.

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WHAT DO THE REGULATORS WANT?

- Elements of risk management:
 - Active board and senior management oversight.
 - Adequate policies, procedures, and limits.
 - Adequate risk identification, monitoring, and management information systems.
 - Adequate internal controls.

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OVERVIEW OF BASEL II

- 1988 Capital Accord:
 - Published by the Bank for International Settlements (BIS).
 - Criticized for being overly simplistic, but was eventually adopted by 50+ countries.
 - Standardized capital requirements across jurisdictions.
 - Focused on credit risk.
 - Was based on the concept of risk-weighted assets.

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OVERVIEW OF BASEL II (CONT.)

- Followed by the 1995 Market Risk Amendment:
 - Added risk differentiation based on market risk indicators.
 - Introduced the concept of internal risk models as a basis for regulatory capital.
 - Stipulated that internal models would be reviewed and their validation checked by the regulators.

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OVERVIEW OF BASEL II (CONT.)

- But something was missing...
 - Total capital across the industry was considered adequate, but the distribution of capital across institutions was a concern.
 - Regulators were particularly concerned about capital requirements for operationally intensive business (asset management and retail brokerage) that took little credit or market risk.
 - Events at Barings, Sumitomo, and Kidder Peabody worried regulators.

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BASEL II TIMELINE

- February 2003 – release of Sound Practices document by the Basel Committee
- July 2003 – U.S. regulators publish initial guidance
- 2004 – U.S. regulators and Basel Committee issue “final rules”.

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BASEL II TIMELINE (CONT.)

- June 2008 – U.S. regulators issue final guidance for larger institutions (assets exceeding \$250 billion) and proposal for smaller institutions
- July 2009 – Basel Committee issues measures to enhance the Basel II framework.
- October 2009 – larger U.S. banks required to present implementation plans to their boards.

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BASEL II TIMELINE (CONT.)

- April 2011 – larger U.S. banks must have completed four quarters of a parallel run with Basel II
- June 2011 - The Basel Committee issued two papers on operational risk:
 - *Principles for the Sound Management of Operational Risk*
 - *Operational Risk - Supervisory Guidelines for the Advanced Measurement Approaches*

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BASEL II OPERATIONAL RISK FRAMEWORK

- Wholly consistent with market and credit risk in that it consists of three components:
 - Pillar I – Minimum Capital Requirements
 - Pillar II – Supervisory Review Process
 - Pillar III – Market Discipline/Disclosure

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PILLAR I – MINIMUM CAPITAL REQUIREMENTS

- Designing the minimum capital requirement involved a number of objectives:
 - To be directionally correct and reasonably calibrated.
 - To be sensible in its composition.
 - To be in line with current internal measurement systems, but flexible enough to accommodate future developments in operational risk.

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PILLAR I – MINIMUM CAPITAL REQUIREMENTS

- Designing the minimum capital requirement involved a number of objectives:
 - To be as consistent as possible with approaches to market risk and credit risk.
 - To generate the right incentives.
 - To be pragmatic.

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PILLAR I CONTINUUM

	Basic Indicator Approach (BIA)	Standard Approach (SA)	Advanced Measurement Approach (AMA)
Sensitivity to Risk			
Granularity of Process and Data			
Sophistication of Measurement			
Structure of System, and Expense			
Reduction in Capital			
	LOW	MEDIUM	HIGH

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THREE DIFFERENT APPROACHES

- Basic indicator:
 - Simplest and crudest.
 - Single charge based on revenue.
- Standardized approach:
 - Somewhat more sophisticated, but not much.
 - Single charge by business unit revenue.

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THREE DIFFERENT APPROACHES (CONT.)

- Advanced measurement approach:
 - Charge based on each bank's model.
 - Must fulfill certain requirements and use tools.
 - Requires regulatory approval.

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BASIC INDICATOR AND STANDARDIZED APPROACHES – STRENGTHS

- Simple and easy to implement.
- Not dependent on costly systems development or risk management methodologies.
- Basel II concept was that most smaller financial institutions will use one of these approaches.

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BASIC INDICATOR AND STANDARDIZED APPROACHES – WEAKNESSES

- Income is a poor proxy for risk.
- No differentiation in capital for the better risk-managed institutions (lower operational risk loss profile for a given business size).
- External risk transfer such as insurance coverage is not recognized.

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AMA QUALIFYING CRITERIA

- Governance requires an independent operational risk function.
- Board of directors needs to have active involvement in oversight.
- Operational risk measurement is integrated into dynamic risk management process, including proper incentives.
- The framework is audited and validated.

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AMA QUALIFYING CRITERIA (CONT.)

- AMA Soundness Standards:
 - EL and UL.
 - Sufficiently granular risk measurement system.
 - Correlations.
 - Quality of internal loss data.

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AMA QUALIFYING CRITERIA (CONT.)

- AMA Soundness Standards:
 - Business environment or risk factors.
 - Use of external data and scenario analysis where necessary.
 - Factors reflecting the business environment and internal control systems.
 - Inclusion of risk transfer products (e.g., insurance).

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A QUICK ASIDE ON MEASUREMENT

- Why measure operational risk?
 - “What can’t be measured can’t be managed.”
 - To enable an effective risk management process.
 - To measure progress.
 - To quantify exposure and/or average loss, in a forward looking sense.

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A QUICK ASIDE ON MEASUREMENT (CONT.)

- “At a minimum you need measures with some directional and relative reliability.”
 - Is risk going up or down?
 - Is risk higher here or there?

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WHAT ARE THE BENEFITS OF MEASURING OR?

- Manage loss levels and save money.
- Make informed cost/benefit decisions.
- Develop expectations and maybe budget/plan for the expected loss.
- Base risk transfer decisions on risk profile.

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WHAT ARE THE BENEFITS OF MEASURING OR? (CONT.)

- Implement internal benchmarking across processes/businesses.
- Participate in external benchmarking and industry surveys.
- Ensure regulatory compliance:
 - BIS (Basel II).
 - SEC (Sarbanes-Oxley).
- Ultimately reduce capital requirements.

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WHAT KINDS OF MEASURES DO WE NEED?

Loss Based

- P&L
- Average/expected loss
- Unexpected loss/ volatility
- Risk capital (regulatory/ economic)

RCSA

- RCSA scores
- Quality of controls/ residual risk scores

Risk Indicators

- KRI levels

Relative measures

- Internal benchmarking
- External benchmarking

Plus, measures on the completeness of the ORM process

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BUT CAN IT BE DONE?

- Can operational risks be reliably quantified?
 - Limited historical data.
 - Subjective nature of the risks.
 - Unproven methodologies.
 - Resource requirements.

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PILLAR II – SUPERVISORY REVIEW PROCESS

- BIS Principles for the Sound Management of Operational Risk:
 - Published by the Basel Committee in 2011.
 - Available at <http://www.bis.org/publ/bcbs195.htm>

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PILLAR II – SUPERVISORY REVIEW PROCESS (CONT.)

11 principles of sound OR management:

1. Strong risk management culture
2. Operational risk framework
3. Board of Directors to establish, approve and review Framework
4. Board of Directors to establish, approve and review risk appetite for operational risk
5. Senior management to develop governance structure

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PILLAR II – SUPERVISORY REVIEW PROCESS (CONT.)

6. Identification and assessment of operational risk in all material products, activities, processes and systems
7. Approval process for all new products, activities, processes and systems
8. Regular monitoring of operational risk profiles and material exposures to losses

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PILLAR II – SUPERVISORY REVIEW PROCESS (CONT.)

9. Strong control environment
10. Business resiliency and continuity plans
11. Public disclosure to allow stakeholders to assess bank's approach to operational risk management

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PILLAR II – SUPERVISORY REVIEW PROCESS (CONT.)

- Role of supervisors:
 - Conduct regular independent evaluation of a bank's policies, processes and systems related to operational risk
 - Evaluation to include all areas described in 11 principles

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PILLAR II – SUPERVISORY REVIEW PROCESS (CONT.)

- BIS Supervisory Guidelines for the Advanced Measurement Approaches:
 - Published by the Basel Committee in 2011.
 - Available at <http://www.bis.org/publ/bcbs196.htm>
 - Identifies supervisory guidelines associated with the development and maintenance of key internal governance, data and modelling frameworks underlying an AMA.

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PILLAR II – SUPERVISORY REVIEW PROCESS (CONT.)

- The Basel II Framework envisages that, over time, the operational risk discipline will mature and converge towards a narrower band of effective risk management and risk measurement practices
- Basel expects the maturation of operational risk practices and supports supervisors in developing more consistent regulatory expectations and has identified practices that fall outside the range of effective and sound operational risk practices.

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PILLAR III – MARKET DISCIPLINE/DISCLOSURE

- Encourage market discipline through disclosure:
 - Banks should make sufficient public disclosure to “allow market participants to assess key pieces of information on the scope of application, capital, risk exposures, risk assessment processes, and hence, the capital adequacy of the institution.”
 - Quantitative – Capital Adequacy:
 - As specified in Pillar I, depends on approach.

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PILLAR III – MARKET DISCIPLINE/DISCLOSURE (CONT.)

- Qualitative – General and AMA-specific:
 - Strategies and processes.
 - Structure and organization.
 - Scope and nature of reporting/measurement.
 - Policies for hedging and/or mitigating risk.
 - Relevant internal and external factors, use of insurance.

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SARBANES-OXLEY

- The Sarbanes-Oxley Act was enacted in 2002 in the wake of a series of accounting scandals.
- Section 404 of the act covers the assessment of internal controls:
- Management’s responsibility to establish and maintain an adequate internal control structure and procedures for financial reporting.

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SARBANES-OXLEY (CONT.)

- Assessment of the internal control structure’s effectiveness.
- Separate audit opinions for financial statements and internal control assessments.
- Disclosure of the adoption of a code of ethics.
- Sarbanes-Oxley covers a sub-set of operational risks.

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SOX AND ORM – REACTIVE APPROACH TO MANAGING RISK

- Historical/traditional.
- Disjointed/band aid.
- Prescriptive rules-based approach.
- Address yesterday's problems.
- Sarbanes-Oxley is considered an example.

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SOX AND ORM – PROACTIVE APPROACH TO MANAGING RISK

- Enterprise risk management.
- Best practices driven by industry rather than regulators.
- Principles-based approach.
- Framework + tools.
- ORM is intended to be an example.

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REVIEW OF MODULE 2 OBJECTIVES

- Reviewed the current Basel II proposals:
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 - Pillar II and the Principles for the Sound Management of Operational Risk.
 - Pillar III and the qualitative/quantitative disclosures.
- Compared Basel II and Sarbanes-Oxley.

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MODULE 3 OBJECTIVES

- Determine the drivers behind the increased focus on operational risk management.
- Identify the generic risk management process and activities.
- Clarify the roles of the board, senior management, and audit.
- Discuss the benefits and drawbacks of centralized and decentralized approaches.

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OPERATIONAL RISK MANAGEMENT DRIVERS

- Banking has existed for centuries without a focus on operational risk management as a separate discipline.
- So what changed?

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DRIVERS FOR OPERATIONAL RISK MANAGEMENT

- Operational risks, and the complexity of managing them, have grown exponentially in recent years.

Technology	Diversification
Human resources	Regulatory/compliance
Outsourcing	Physical damage

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INCREASED TECHNOLOGY RISKS

- Increased use of automation.
- Larger volumes affected by single events.
- Greater transaction speed.
- Increased reliance on connectivity.
- Growth in e-commerce.

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INCREASED TECHNOLOGY RISKS

- Fraudsters have access to technology too.
- Heavier reliance on computer-based models for underwriting, securitization, market risk, etc.
- Processes without adequate back-up plans.

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INCREASED DIVERSIFICATION RISKS

- Less familiarity with businesses.
- Complexity.
- Geography.
- Insufficient historical knowledge.

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INCREASED HUMAN RESOURCES RISKS

- Mergers and acquisitions/lack of common culture.
- Increasingly negative feelings toward employers.
- Lack of loyalty/common goals.
- Higher turnover.
- Less effective training.
- More difficult compliance environment.

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INCREASED REGULATORY/COMPLIANCE RISKS

- More—and more complex—laws and regulations.
- Post-meltdown backlash.
- Basel II, AML requirements.
- Shifting standards.
- Larger penalties for non-compliance.
- Uncertain future.

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INCREASED OUTSOURCING RISKS

- More work done off-premises and by non-employees.
- Less direct control.
- Differing standards.
- Cross-border issues.

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INCREASED OUTSOURCING RISKS

- Vendor agreements.
- Relationship management.
- Contingency plans.

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INCREASED RISK OF PHYSICAL DAMAGE

- Natural disasters
- Terrorism
- Environmental damage (e.g., mold, toxins)
- Technology

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GENERIC RISK MANAGEMENT PROCESS

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graph LR; A[Risk Identification] --> B[Risk Policy]; B --> C[Risk Management & Reporting]; C --> D[Risk Measurement & Analysis]; D --> E[Risk Mitigation]; E --> F[Performance Measurement]; F --> A;
```

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ROLE OF BOARD AND SENIOR MANAGEMENT

- Board and senior management's active involvement in ORM is required by the regulators.
- Their attention helps the business and functional areas to focus on OR.
- While the business owns the risks, it is ultimately the responsibility of senior management and the board.

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ROLE OF INTERNAL AUDIT

- The role of internal audit is to independently check on all management processes, including operational risk.
- However, operational risk and internal audit work closely together.

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CENTRALIZED VS. DECENTRALIZED ORM?

- Should operational risk management be centralized (reporting to a staff executive) or decentralized (reporting to the head of the business)?
- What are the advantages and disadvantages of each approach?

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CENTRALIZED VS. DECENTRALIZED ORM?

Benefits of centralized:

- Consistency.
- Uniform standards/policies and approach.

Benefits of decentralized:

- Integrated with business.
- Close to issues.

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CENTRALIZED VS. DECENTRALIZED ORM? (CONT).

Benefits of centralized:

- Able to compare and contrast.
- Objectivity and independence.

Benefits of decentralized:

- Efficiency and relevance.

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REVIEW OF MODULE 3 OBJECTIVES

- Determine the drivers behind the increased focus on operational risk management.
- Identify the generic risk management process and activities.
- Clarify the roles of the board, senior management, and audit.
- Discuss the benefits and drawbacks of centralized and decentralized approaches.

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HOMEWORK – MINI CASE STUDIES

Brief description of events	General Risk Category:	Regulatory Category 1	Regulatory Category 2	Impact	Lessons Learned
What happened? How identified? What was the root cause?	*Process/ Technology *Conduct/People *External Factors				
Case 2 Bank of America					
Case 7 Municipal Credit Union					

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Enterprise Risk - Credit Risk - Market Risk - **Operational Risk** - Regulatory Compliance - Securities Lending

SEE YOU NEXT CLASS!

- Review Homework
- Operational Risk Management Tools
 - » RCSA
 - » KRI
 - » Loss Reporting and Analysis
 - » Reporting Framework
- Practical approaches to ORM for a financial institution

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