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Defining and Classifying Operational Risk

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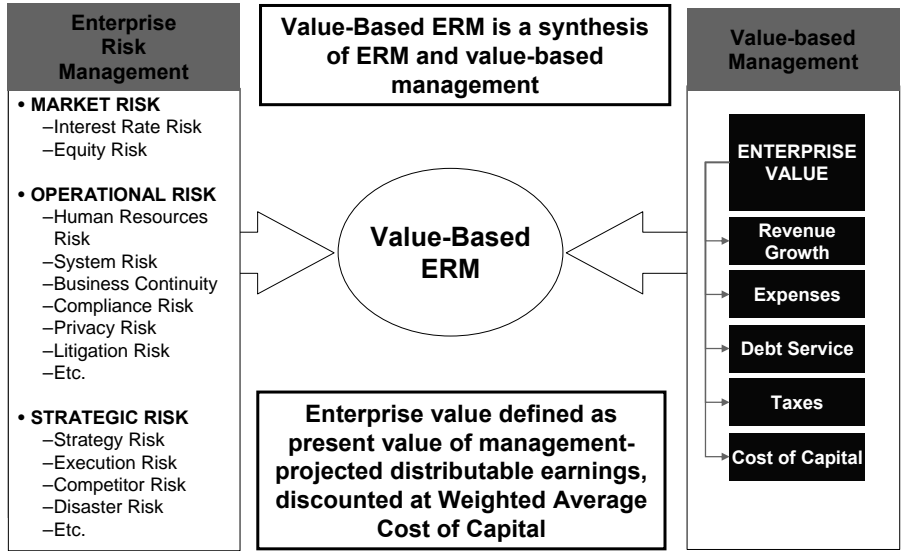
Value-Based ERM

Traditional risk management has several shortcomings:

- Inability to quantify operational and strategic risks
- Lack of a compelling business case
- Unclear concept of risk appetite
- Incomplete integration into decision making

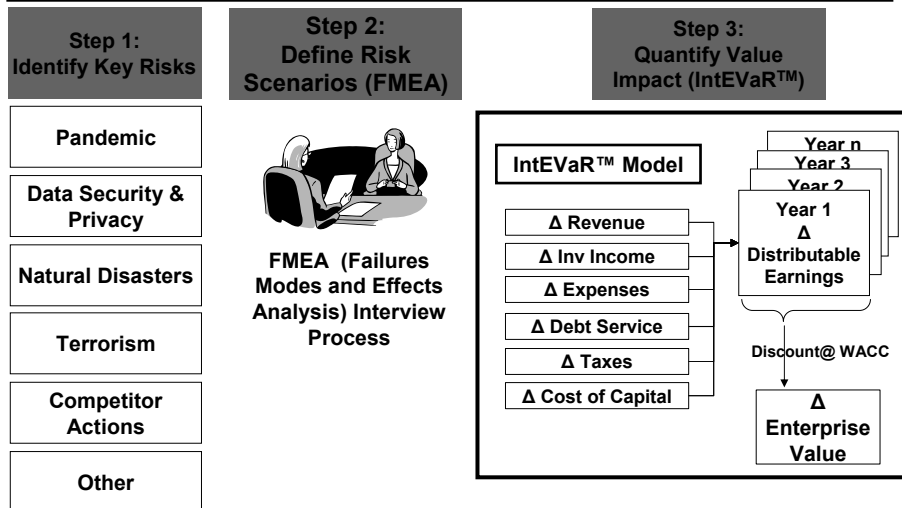
Value-Based ERM approach addresses these shortcomings.

Value-Based ERM



FMEA Interviews and IntEVar™

IntEVar™ is a scenario-based tool used to quantify the impact of operational and strategic risks qualified by management as significant



Sample Report - Risk Quantification

In \$ Millions		ILLUSTRATIVE				
Risk Category	Risk	Extremely Bad	Moderately Bad	Best Estimate (Plan)	Moderately Good	Extremely Good
Strategic	Pandemic	(\$400)	(\$80)	\$0	n/a	n/a
Operational	Natural Disaster	(\$45)	(\$10)	\$0	n/a	n/a
Market	S&P 500	(\$30)	(\$10)	\$0	\$10	\$15
Operational	Data Security - Phishing	(\$150)	(\$35)	\$0	n/a	n/a
Probabilities						
		1-in-50	1-in-7	67%	1-in-7	1-in-50

Sample Case

Case Study – Mid-sized Life Insurer

- With the company, we identified 13 key risks, including:
 - Pandemic
 - Natural disaster
 - Interest rates
 - Various data privacy/security
 - Baby boomer retirement
- With the key risk owners, we conducted FMEA interviews to decompose risks into shocks
- Used IntEVaR™ model to quantify each risk individually and in combination with other risks
- Bespoke calculation engine specially tailored to capture the financial impacts of the selected risks in the complex environment of insurance

Case Study – Pandemic Risk

Risk	Mid-size Insurer – Pandemic	
Severity	Moderate Event	Extreme Event
Scenario	<ul style="list-style-type: none"> ■ Moderate employee deaths and illness ■ Impact to new sales ■ Assets lose value due to loss of liquidity in markets ■ Insurance product impacts 	<ul style="list-style-type: none"> ■ Significant employee deaths and illness ■ No new sales ■ Assets lose value due to loss of liquidity in markets ■ Insurance product impacts
Fixed Expense	\$1M in year 1 \$2M in year 2	\$5M in year 1 \$10M in year 2
Mortality Rate	5 deaths per 1,000	10 deaths per 1,000
New Sales	60% of plan sales for 2 years	No new sales for 2 years
Asset Values	5% immediate drop	10% immediate drop

Case Study – Pandemic Impact

In \$ Millions						
Risk Category	Risk	Extremely Bad	Moderately Bad	Best Estimate (Plan)	Moderately Good	Extremely Good
Strategic	Pandemic	(\$208)	(\$110)	\$0	n/a	n/a
Probabilities		1-in-50	1-in-7	67%	1-in-7	1-in-50

- Pandemic scenario was greatest single source of enterprise value reduction of all risks considered
- Mitigation strategies considered:
 - Creation of online sales channel
 - Implementation of work-from-home strategy
 - Increased cross-training for effective redeployment of personnel

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Identifying and Classifying Operational Risk

Beverly Jones, Vice President, Risk Management

Agenda

- Operational Risk Management Overview
- Operational Risk Management Framework
 - How
 - What
 - Why
- Operational Risk Development Statistics

Operational Risk: Industry Definition

- Basel II Accord defined operational risk as:
“The risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events.”
- Prior to Basel, no industry-wide definition of operational risk existed for the financial services industry
- S&P regards the Basel definition for banks as valid when applied to insurer ERM
- Solvency II currently defines operational risk in the same terms as Basel

Value of Operational Risk Management (ORM)

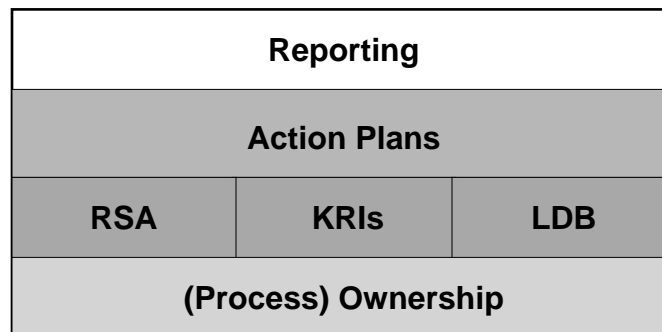
- Reduce losses and loss volatility
 - Preventing just one significant risk event every several years would cover the costs of ORM
- Free up risk capacity for higher return activities
- Improve business process efficiency and effectiveness to create cost savings and competitive advantages
- Better address growing concerns from regulators, investors, analysts and rating agencies
- Reduce unwanted exposure and the likelihood of adverse risk
- Create decision-support framework and process to better equip management to make more informed decisions

Structuring the ORM Framework

- Implement qualitative framework and data collection to measure operational risk. Economic risk assessment for operational risk is part of the economic capital project.
- Four building blocks for risk measurement:
 - Process risk control
 - Key risk indicators
 - Risk self-assessment
 - Operational loss data
- All four building blocks will result in management action plans as a result of
 - Risk-control gap analysis performed
 - KRIs exceeding pre-defined thresholds
 - New risks identified during risk self-assessments
 - Root-cause analysis performed following significant operational losses

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Structuring the ORM Framework

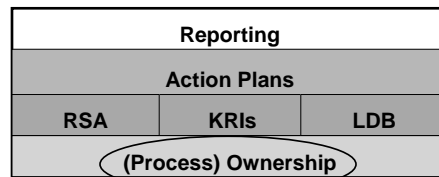


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Structuring ORM: Process Mapping

What?

- High-level map of significant processes, their process owners, and critical systems
- Process in this definition focuses on the value added to stakeholders (e.g., internal and external customers, shareholders, etc.)
- Focus is across functions, departments, locations; not a silo view

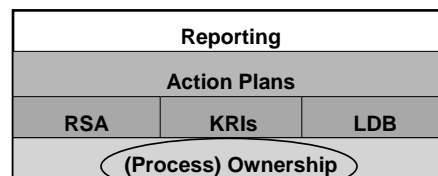


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Structuring ORM: Process Mapping

How?

- Start with significant processes (3-6) in each division or business unit
- Identify process owner
- Identify critical systems supporting each significant process

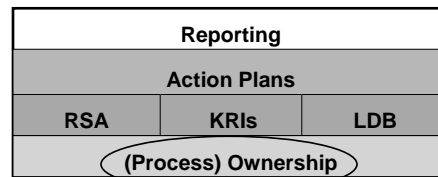


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Structuring ORM: Process Mapping

Why?

- Right sizes each division's ORM efforts with focus on significant processes
- Drives accountability for ORM across functions through the process owners

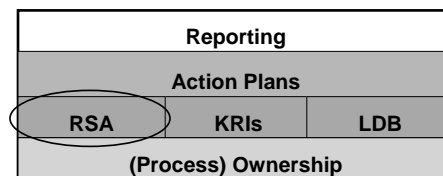


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Structuring ORM: Risk Self Assessments (RSA)

What?

- Typically a facilitated workshop that involves 8-12 subject matter experts on the chosen significant process
- Output includes process objectives, value chain, prioritized risks, existing controls, action plans and owners
- Used as input in establishing Key Risk Indicators (KRIs)

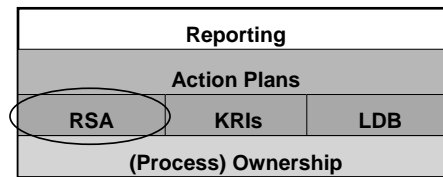


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Structuring ORM: Risk Self Assessments (RSA)

How?

- Start with process objectives
- Work with process owners to identify significant risks and existing controls
- Hold executive facilitated workshop to validate significant risks, prioritize residual risks and define action plans and owners
- Consider questionnaires as an option to facilitated sessions as the process matures

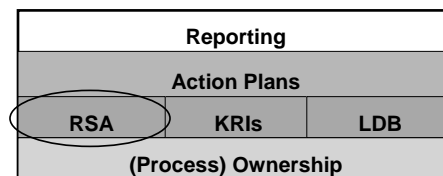


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Structuring ORM: Risk Self Assessments (RSA)

Why?

- Focuses risk assessment on achieving business objectives, maintaining a top-down view
- Efficiently identifies and assesses risks in a comprehensive manner
- Promotes common understanding of risks



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Structuring ORM: Risk Self Assessments (RSA)

- Deliverables
- Report on findings and track action plans for each session
 - Formalized ownership for all significant processes
 - Cross-departmental nature of most RSA workshops support information and communication
 - Proactive thinking in this area should reduce the impact and frequency of loss events

Structuring ORM: RSAs

For each significant process:

1. Define value chain
2. Define business objectives
3. Identify significant risks to achieving objectives
4. Identify existing controls that mitigate risks
5. Rank residual risk/exposure
6. Define action plans – either accept, transfer, avoid or control
7. Risk reporting

Exposure or residual risk exists for the ideal purpose of adding to profits, rather than increasing the costs or the possibility of losses

Likelihood Times Impact: Heat Map

Likelihood	5	5 Green	10 Yellow	15 Orange	20 Red	25 Red
	4	4 Green	8 Yellow	12 Orange	16 Red	20 Red
	3	3 Blue	6 Green	9 Yellow	12 Orange	15 Red
	2	2 Blue	4 Green	6 Green	8 Yellow	10 Red
	1	1 Blue	2 Blue	3 Blue	4 Green	5 Orange
		1	2	3	4	5
		Impact				

Residual risk scores are assigned one of five categories:

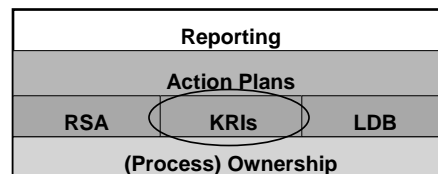
1. Critical (Red)
2. High (Orange)
3. Moderate (Yellow)
4. Low (Green)
5. Very Low (Blue)

Risk ratings are expressed using a heat map, where orange and red designate "hot spots" warranting more immediate attention.

Structuring ORM: Key Risk Indicators

What?

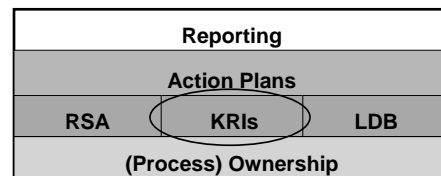
- Focused number of metrics intended to monitor risks in significant processes
- Predictive and non-predictive indicators
- Predictive indicators should correlate with operational events in the longer term (3-5 years)



Structuring ORM: Key Risk Indicators

How?

- Inventory of current risks
- Determine most significant risks that require monitoring
- Establish KRIs for most significant risks in each significant process



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Structuring ORM: Key Risk Indicators

Why?

- “Early warning” meant to identify significant operational risks before materializing
- Means for tracking trends in known risks
- Management tool for focusing attention on areas of high risk
- Likely Solvency II requirement
- Basel II Accord: “...capture key business environment and internal control factors that can change operational risk profile”

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Example Generic KRIs

Category	KRI Name
People	Workplace Safety
People	Staff Turnover
People	Absence Ratio
Legal & Compliance	Regulatory Breaches
Legal & Compliance	Litigation
Legal & Compliance	Customer Complaints
Facility	Physical Assets
Fraud	Fraud Incidents
Processing & Administration	Processing Backlogs
System	System Downtime
System	Data Security

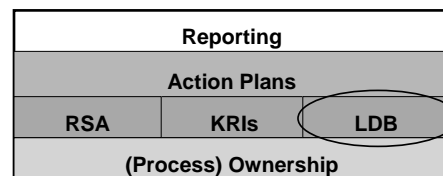
Structuring ORM: Loss Event Database

What?

- Financial losses (quantified by organizational needs)

Defined as “non-voluntary” (and often unexpected) cash outflows as a result of operational events (versus “voluntary” cash outflows for inefficiencies in processes or usage of resources)

- Opportunity losses
- Inefficiency losses
- Increased reputation exposure



Structuring ORM: Loss Event Database

How?

- Identify and establish procedures for collecting data and categorizing losses into the eight operational risk categories and their sub-categories
- Implement procedures for loss event data collection, including “emergency situations”

Reporting		
Action Plans		
RSA	KRIs	LDB
(Process) Ownership		

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Structuring ORM: Loss Event Database

How?

Operational Risk Category	Operational Risk – Level 1
Business Risk	Customer Risk
	Management Reporting Risk
Legal & Compliant Risk	Trademark Risk
	Legal Liability Risk
Tax Risk	Tax Code Risk
	Tax Planning Risk
Facility Risk	Procurement Risk (incl bldg, eqpt, furniture, plane, auto)
	Outsource/Contracting Risk (non-core activities)
Process & Administer Risk	Policy & Procedure Risk
	Execution Risk
System Risk	Change Management Risk
	Business Continuity Planning Risk
People Risk	Recruitment, Interview, Selection Risk
	Succession Planning Risk
Fraud Risk	Misrepresentation Risk
	Embezzlement Risk

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Structuring ORM: Loss Event Database

Why?

- Establish baseline understanding of actual loss experience to provide input for root-cause analysis and define scenario analyses
- Validate risk assessment data
- Formalizes ownership for significant loss events and related actions across enterprise
- Structured analysis and reporting of operational loss events maintains and reinforces risk awareness
- Relatively low thresholds for data collection ensure issues are identified at an early stage

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Some Statistics

- 90% - operational risk management has become an established discipline and a key element of a financial institution's overall risk management practice
- 55% - ORM programs more than three years old (up from 30% in 2005 survey)
- 50% - risk self assessment and loss data programs area at or near maturity
- Top three risks:
 - 22% - external fraud
 - 14% - transaction processing failures
 - 10% - IT failures
 - Regulatory compliance was a scant 4%

Source: Results from Protiviti's third annual State of Operations Risk Management global survey, Op Risk and Compliance, May 1, 2007

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