



SOCIETY OF ACTUARIES

**ERM Symposium
April 2010**

4E - Managing Risk

Brian Rhodes
France Panneton
Giselle Lim

Moderator
Kreg Weigand



Where Cutting Edge Theory Meets State of the Art Practice



WELCOME!!

Managing Risk



Canadian
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Actuaries



Institut
canadien
des actuaires



Agenda



Where Cutting Edge Theory Meets State of the Art Practice

Introductions

- **KPMG's ORM Survey Summary** – Kreg Weigand, KPMG LLP
- **ERM Future State** – France Panneton, Sun Life Financial
- **Risk Quantification** – Brian Rhoads, Quantitative Risk Management
- **Embedding ERM** - Giselle Lim, Prudential International Insurance

Q&A

KPMG ORM Survey Summary – Kreg Weigand

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About KPMG's Operational Risk Survey

- KPMG's ORM survey was conducted from April through May 2009 and included responses from **26 insurers**
 - **38% life insurers**
 - 19% each property casualty and health insurers
 - 23% other entities
- **More than 75%** of the companies surveyed had **revenues in excess of \$1 billion**
- Respondents were generally **Chief Risk Officers** or another representative risk professional within the organization
- Survey focused on four key areas:
 - Current State and Culture
 - Organizational Structure
 - Assessment
 - Moving Forward



Operational Risk
Management (ORM):
Survey of Insurers,
2009

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Key Findings from Operational Risk Survey



What Counts Up? There's More to It Than It Seems

Current State and Culture

- The financial crisis has had a strong impact, with 68% of respondents noting an increased focus on ORM given the increased need for **surveillance and operational speed** in the current environment
- A majority (58%) confirmed concern about **increased fraud**
- Not surprisingly in light of these findings, **ORM** is now having a much **greater influence** on organizations, as compared with even two years ago

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Key Findings from Operational Risk Survey



What Counts Up? There's More to It Than It Seems

Organizational Structure

- Over two-thirds of respondents consider ORM to be the responsibility of every employee within an organization, but "tone at the top" still matters – 64% consider **operational risk oversight** to be a **board responsibility**
- Despite this, only 36% report **top-down senior management involvement** in ORM
- Relative to structure, an integrated **Governance, Risk, and Compliance (GRC)** framework appears to be gaining popularity
 - 67% include the Audit function, Sarbanes Oxley programs, and IT security within GRC
 - 57% include their ORM program

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Key Findings from Operational Risk Survey



What's Coming Up? There's More to Come...

Assessment

- Organizations are collecting significant levels of information as part of their operational risk assessments
- However, an overarching finding of the survey is that operational risk management is more **qualitative, as opposed to a quantitative**, in nature
- The most popular mechanisms for determining whether **operational decisions** were appropriate and whether a given area's aggregate risk is too high, remain qualitative criteria
- A strong majority (68%) continue to use descriptive methods to capture operational risk interactions, with only **20% using mathematical tools**

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Key Findings from Operational Risk Survey



What's Coming Up? There's More to Come...

Moving Forward

- Risk appetite and limits, linkage to other risks, and the dollar impact of operational risks all ranked highly
 - Improved articulation of **risk appetite** and limits received the highest priority with 71% of respondents hoping for changes in this area
 - Using **risk-adjusted return** considerations for decision-making purposes was close behind, with 68% considering such a change to be significant
 - But virtually every potential area – from ORM processes to **technology, culture to language** – received interest with respect to taking their ORM program to the next level

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ERM Future State – France Panneton

*Director, Risk & Product Governance
Sun Life Financial*

Agenda – future state

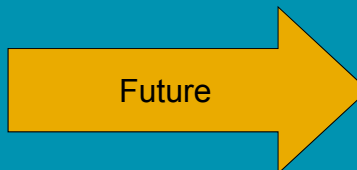
External forces



- 1. State & culture
- 2. Organizational structure
- 3. Assessment



Internal forces



External forces: Regulators, rating agencies



What's Going On? There's More to It Than You Think

Starting assumptions

*Regulators will maintain/increase their role
Rating agencies will continue to reward ERM*

1. State & culture

- ERM importance maintained/increased
- More holistic operational risk management

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External forces: Regulators, rating agencies



What's Going On? There's More to It Than You Think

Starting assumptions

*Regulators will maintain/increase their role
Rating agencies will continue to reward ERM*

2. Organizational structure - Canadian regulator

- Restrictions: Audit, compliance & Chief Actuary functions

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External forces: Regulators, rating agencies



What's Going On? There's More to It Than You Think

Starting assumptions

Regulators will maintain/increase their role
Rating agencies will continue to reward ERM

3. Assessment - Canadian regulator

- Proposed guideline: Internal model approach - operational risk included later on
- Proposed change: Capital requirement for operational risk for reinsurance of life insurers

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Internal forces: Balance risk mgmt & reward



What's Going On? There's More to It Than You Think

Starting assumptions

Balance risk & reward
Enhance operational risk management

1. State & culture

- Move upward in strategic alignment
- Education on operational risk management
- Enterprise operational risk dashboard

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Internal forces: Balance risk mgmt & reward



What's Going On? There's More to It Than It Seems

Starting assumptions

Balance risk & reward
Enhance operational risk management

2. Organizational structure

- Collaboration between/within business units/groups
- Communication

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Internal forces: Balance risk mgmt & reward



What's Going On? There's More to It Than It Seems

Starting assumptions

Balance risk & reward
Enhance operational risk management

3. Assessment

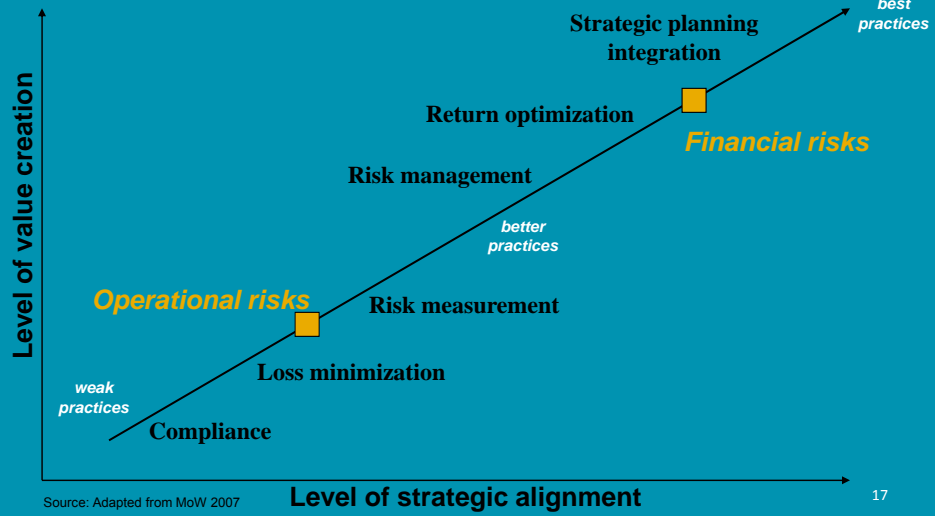
- Focus on key risks not all risks
- Focus on tail events not mean
- Use external data while building internal data
- Develop economic capital for operational risk

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Evolution of risk management



What's Coming Up? There's More to It Than You Think



What's Coming Up? There's More to It Than You Think

Risk Quantification – Brian Rhoads

Risk Quantification – Agenda



What's Coming Up? There's More to Come in the Future

- Introduction: Defining the Scope of Best Practice ERM
- Implementing Global Stress Testing Practices
- Expanding Risk Discovery Practices
- Conclusion: ERM Is Both Top-down and Bottom-up

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What's Coming Up? There's More to Come in the Future

Embedding ERM – Giselle Lim

*Chief Risk Officer, Prudential International Insurance
The Prudential Insurance Company of America*



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Embedding ERM – Agenda



What's Coming Up: Three More Sessions in the Program

- Prudential's ERM Program
- ERM in the International Division
- Outlook / Next Steps

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Enterprise Risk Management Principles and Objectives



What's Coming Up: Three More Sessions in the Program

- **Risk is managed at the business unit level under a company-level framework of policies and standards**
- **Prudential's fundamental risk management principles. Risk must be:**
 - Understood by risk-takers
 - Managed "close to home" with business group accountability
 - Measured, aggregated and assessed globally
- **Major objectives of risk management activities:**
 - Risks are mitigated on a timely basis
 - Magnitude and frequency of surprises is minimized
 - Risk profile is consistent with the Company's risk tolerance
- **Accomplished within the context of market/operating conditions, potential returns/benefits, enterprise objectives, and risk appetite**

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Enterprise Risk Management Roles and Accountabilities



What Counts Up? That's How You Get It Done!

- **Integrated system of risk management** that covers the entire portfolio of risks
- **Business management** owns processes, related controls, and the management of risk
- **Oversight functions** work closely with the business units to establish the framework for risk management, including the development of policies, standards and limits in accordance with best practices
- **Enterprise Risk Committee** reviews significant enterprise-level risks and concentrations and establishes policies, standards and limits
 - Ensure that risk profile is consistent with business objectives and risk tolerance

Corporate Management Committee Structure



What Counts Up? That's How You Get It Done!



Corporate Management ERM – Derived Value



What Counts Up? There Must Be a Reason for It.

- Value was particularly evident during the financial crisis
 - Real-time monitoring capability gave management the information to assess the impact of changing risk profile (e.g., counter-party exposure, current and projected capital position)
 - Diversification of business mix produced superior returns
 - Relative financial strength provided competitive advantage, especially in international markets
- Even in “normal” times ERM program adds value
 - Risk is understood by business leaders and decision-makers
 - Unacceptable risk is mitigated, transferred, or avoided
 - Disciplined and efficient allocation of capital
 - Reduction in core earnings volatility and surprises

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International Division Risk Management Structure



What Counts Up? There Must Be a Reason for It.

International Division Risk Management Committee

- Provides an interdisciplinary forum for the identification, assessment, monitoring, and resolution of risk and exposure issues
- Topics evaluated by the Risk Management Committee include:
 - significant current and emerging risks (including the appropriate key risk indicators)
 - new products, distribution channels, and other business initiatives
 - acquisitions and divestitures
 - major system conversions and business reengineering
 - audit, self-assessment, and regulatory exam results
 - loss events
- Meets on a monthly basis, supported by a monthly Risk Profile report

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International Division ERM – Current State



What's Going Right? (There's More to Come, We Promise)

- Risk Management is embedded within the business and incorporated into decision-making
 - Focused on acquiring individuals with the right skill set for Risk Management function
 - Risk Management is seen as a business partner
 - Strong tone from the top; management is accountable for identifying, monitoring and managing risk
 - Intelligent risk taking is a leadership competency evaluated in all managers' appraisals
- Risk exposure is evaluated and aggregated both vertically and horizontally

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International Division ERM – Looking Forward



What's Going Right? (There's More to Come, We Promise)

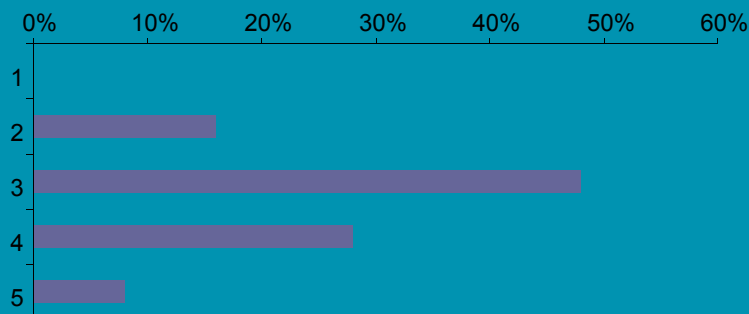
- Expanding risk scenario modeling and analysis
 - Scenario analysis over a broader scope of risks
 - Building modeling and scenario analysis capability across all operations
- Enhancing business continuity capability
 - Business Continuity Program currently designed to minimize loss and ensure continuity in the event of traditional incidents or disasters
 - E.g., loss of infrastructure, building and city outages
 - Regional and widespread outage plans, focus on scenarios involving loss of critical personnel and multiple facilities
 - E.g., avian flu pandemic, regional incidents caused by terrorism
- Integrating with business operations
 - Take advantage of “rewards” for strong risk management
 - Risk premium being allocated to business activities for true picture of cost/return

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Appendix – KPMG's ORM Survey Results

Current State and Culture

What is the current state of your organization's operational risk function?



1 = best of breed, 3 = on par with peers, 5 = beginning of journey

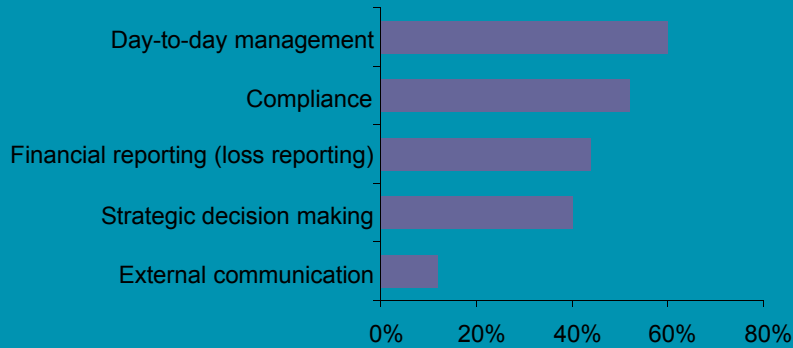
Nearly half of the respondents rate their organization's Operational Risk function on par with their peers

Current State and Culture



What's Going On? Where Have We Been and Where Are We Going?

What is operational risk reporting used for?



Slight less than the majority of respondents are using operational risk reporting for strategic decision making

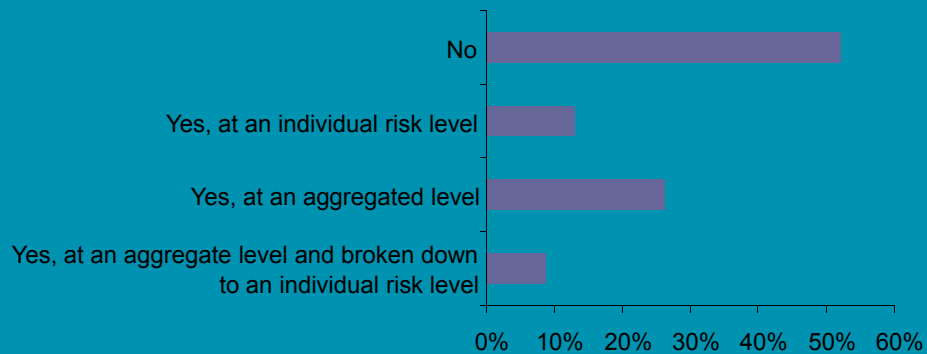
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Current State and Culture



What's Going On? Where Have We Been and Where Are We Going?

Has your organization defined its ORM risk appetite/ risk tolerances?



Half the survey respondents have not defined their risk appetite for ORM

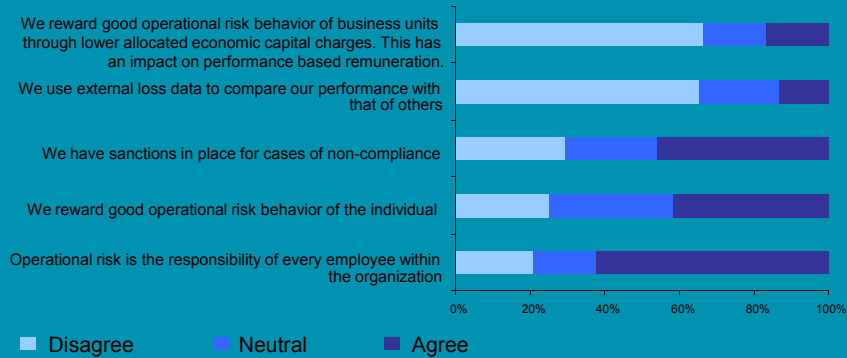
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Current State and Culture



What's Going Right? There's More to It Than You Think

Please rate your level of agreement with the following statements on the strength of your organization's risk culture



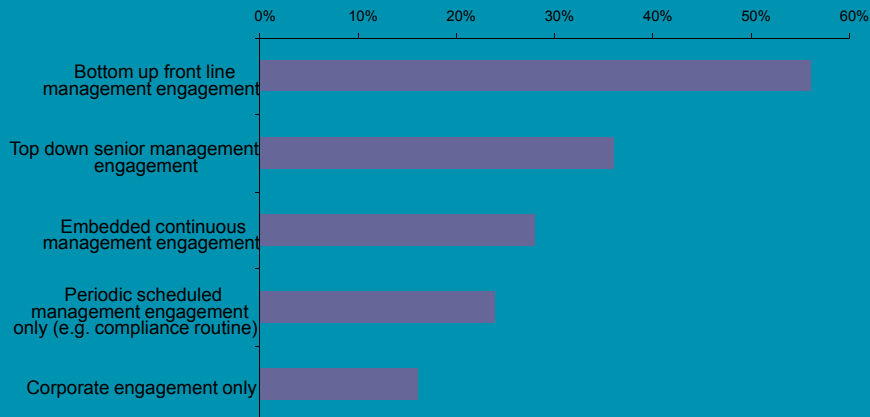
Significant majority agree or strongly agree that Operational Risk is the responsibility of every employee within the organization

Organizational Structure



What's Going Right? There's More to It Than You Think

How embedded is ORM within your organization?



Majority say Operational Risk Management is embedded from bottom to front line

Assessment



What's Going On? There's More to It Than You Think

Please rate the following statements on their level of significance to your operational risk program.



Communication with other departments is significant/ very significant

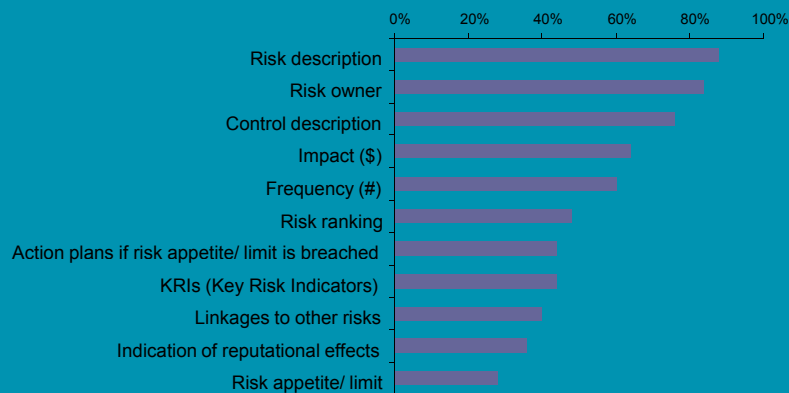
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Assessment



What's Going On? There's More to It Than You Think

What information is collected as part of your ORM assessment?



Qualitative aspects ranked highest amongst information collected as part of the Operational Risk Assessment

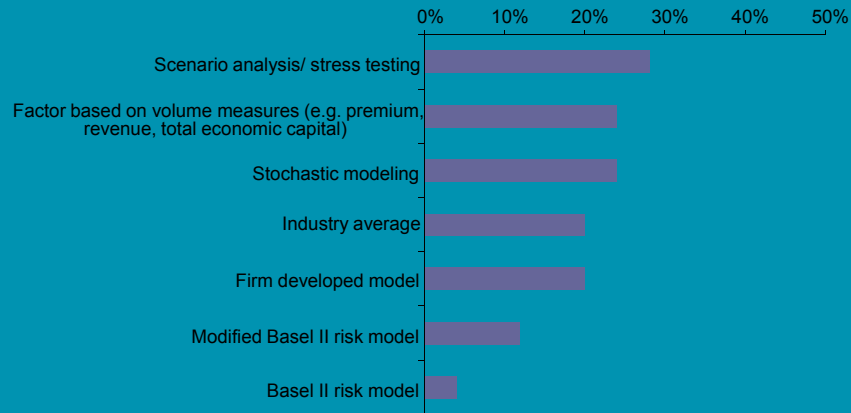
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Assessment



What's Going On? There's More to It Than You Think

Which operational risk model do you apply to estimate operational risk capital?



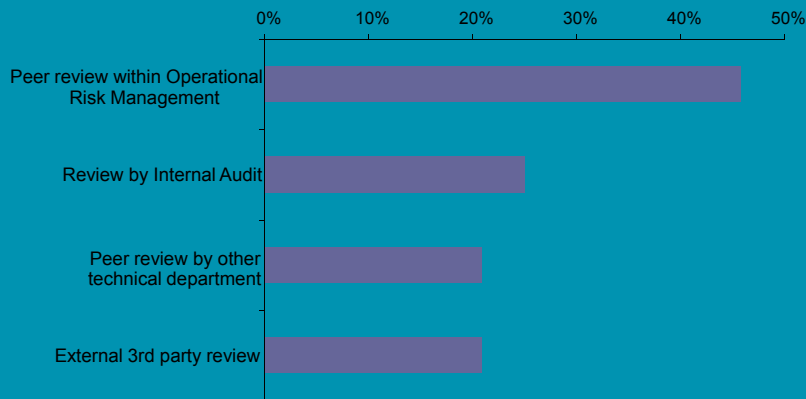
3 in 10 respondents say they apply scenario analysis/stress testing to estimate Operational Risk Capital

Assessment



What's Going On? There's More to It Than You Think

To what extent has your operational risk model been validated?



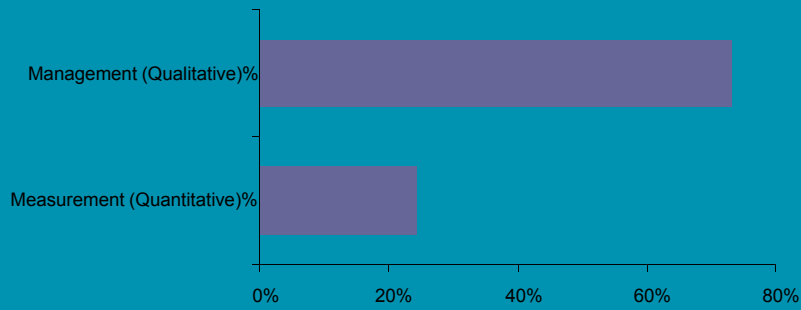
Nearly half the respondents say their Operational Risk model has been validated with peer review within Operational Risk Management

Assessment



What's Going Right? There's More to It Than You Think

What is the mix of management and measurement activities for your operational risk function?



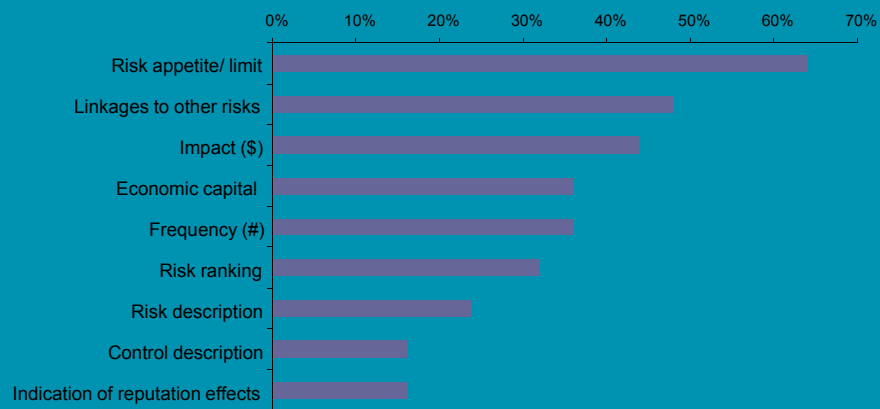
For Operational Risk, management is currently focused on the qualitative issues

Moving Forward



What's Going Right? There's More to It Than You Think

What areas of ORM require the greatest improvement?



Top five areas of greatest improvement relate to measurement