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Context Setting - Enterprise Risk Management
Sharing our experience on Industry Leading Practices

Enterprise Risk Management leading practices observed in the banks and financial conglomerates across the world

Enterprise Risk Management elements adopted across the following banks:
- Barclays
- BNP Paribas
- Credit Suisse
- DBS
- Deutsche Bank
- Goldman Sachs
- ING
- J P Morgan Chase
- Merrill Lynch
- Royal Bank of Scotland
- Standard Chartered
- UBS
- Bank of New York Mellon
- Royal Bank of Canada

Tone at the Top
- Board of Directors establish governance framework and policy for Enterprise wide Risk Management
- Establishing board level oversight committee

Building Blocks
- Risk Identification, Assessment and Measurement

People Alignment
- Assessment of Risk Culture

Enablers
- Capital Allocation
- Risk adjusted pricing

Integration between Risk, Finance, Treasury and Internal Audit

Group wide Roll out

Geography

Business Groups

Products and Services

Technology

Activity Group
- Risk Identification
- Risk Culture
- Risk Appetite
- Integrated Material Risk Assessment
- Stress Testing and Liquidity Management
- Model Governance

Risk Culture - Framework, Delegation and Accountability

Risk Oversight - Escalation - Monitoring of Risk profile, Ownership of Risk Issues

Linkage

Board of Directors
- Risk Committee
- Audit Committee

Risk Culture - Tone at the Top

People Alignment
- Convergence of ERM activities with Finance, Treasury and 3rd line of defence
Progress in Risk Management after the Crisis
Risk Management after the Crisis
Key Issues impacting Financial Institutions Globally

The key issues impacting financial institutions globally based on the result of EY survey* and Global Network#

01. Role of Board
   Involvement of board increased with key focus on Risk Appetite & Capital Allocation

02. Role of CRO
   CRO increasing playing a key role in all key strategy and planning decisions

03. Models
   More than 95% firms reported change in capital models

04. Liquidity Management
   Complying to LCR and local liquidity requirements top focus

05. Capital and Stress Testing
   Reallocate capital based on level of risk undertaken

06. Risk Culture
   Strengthening risk roles and responsibilities, communication and training

07. Risk Appetite
   Risk Appetite is viewed as an important strategic tool by CROs

* EY along with Institute of International Finance (IIF) has undertaken three annual surveys to track changes in risk management landscape post financial crisis. 69 banks and 6 Insurance Companies participated in the last survey conducted in 2012

# EY has collaborated with non-executive directors of 13 global banks and participants from regulatory bodies to form the Bank Governance & Leadership Network (BGLN) to provide view point on various challenges faced by financial institutions
Risk Management after the Crisis
Key Issues Impacting Financial Institutions Globally

Despite the challenges, firms participating in the survey reported continued progress on risk management improvements.

<table>
<thead>
<tr>
<th>Substantial progress made globally</th>
<th>57% report increase in size of the Group Risk function and 48% report increase in Business/Unit Risk functions</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>Governance structures strengthened; board involvement increased; board risk committees almost universal; role and influence of CROs expanded</td>
<td>► Still evolving role of risk committees and boards; boards are overwhelmed with new regulatory expectations</td>
</tr>
<tr>
<td>Risk Appetite</td>
<td>Risk appetite for most has been introduced at the enterprise level</td>
<td>► Embedding risk appetite into businesses and linking to decision making</td>
</tr>
<tr>
<td>Risk Assessment</td>
<td>Forward looking assessment frameworks and risk indicators have been deployed</td>
<td>► Turning stress testing into a flexible management tool</td>
</tr>
<tr>
<td>Use Test</td>
<td>Liquidity and capital management practices and processes have been improved</td>
<td>► Adjusting to Basel III and to new local regulations</td>
</tr>
<tr>
<td>Data/IT</td>
<td>Internal risk transparency has been improved</td>
<td>► Upgrading data and systems is a long-term costly effort</td>
</tr>
</tbody>
</table>

"During the crisis, we probably learned more about risk in our company than we had in previous 10 years."  
"It’s a work in progress because everybody is trying to learn on the job."
Key focus areas in deploying the Enterprise Risk agenda

| Drivers: Key issues impacting the ERM agenda for financial institutions today |
|---|---|
| Governance and Risk Culture 1 | Risk Appetite – Determination, Quantification and Embedding 2 |
| Capital Management and Stress Testing 4 | Risk Assessment and Risk Reporting 3 |

Imperatives for Enterprise Risk transformation agenda
Key Focus Areas in deploying Enterprise Risk Agenda
“Risk culture can be defined as the norms and traditions of behaviour of individuals and of groups within an organization that determine the way in which they identify, understand, discuss, and act on the risks the organization confronts and the risks it takes.”

**Risk Culture Framework**

**Awareness**
- Ethical awareness
- Awareness of risk and issue management
- Risk appetite awareness
- Organization’s risk profile awareness

**Leadership**
- Leaders hold people accountable
- Leaders role model expected behaviours
- Rewards & consequences balance behaviours & outcomes

**Standards**
- A constructive culture to prevent risks
- Open culture to help detect risks
- Management of issues to recover from incidents

**Sustainability**
- Lessons learnt from past issues
- Anticipating trends and future risks
- Ability to improve and respond to change

**Governance**
- Business units
- Risk & governance
- Internal Audit

**Outcomes**
- Sustainable Business
- Enhanced customer experience
- Shareholder Value
- Compliance
- People Engagement
- Community contribution
**Risk Culture**
Sharing our experience

**Challenge:**
- Implementing framework that defines and tracks risk culture based on what is called ‘abstract attributes’ – ‘Defining what is good and bad’
- Transforming values to actions: A clear policy about unauthorized risk taking but way to get promotions are inconsistent with the policy terms and make the bet pay off

**Action:**
- Risk Culture Assessment: Determine risk culture through employee morale surveys, measuring parameters to assess recognition of risk, transparency of risk, responsiveness to risk and respect for risk
- **Roles and Responsibilities:** Rearticulate roles and responsibilities based on acceptable good and bad behavior within the organization

**CRO Speak**
“You can embed risk culture in many ways – through rules, control and incentives – to define what is and is not acceptable”

**What good looks like:**
- Defined core values and philosophy that the organization believes in and integrated into key aspects of managing employees and their performance, including recruitment, induction, performance assessment and rewards.
- Bringing Values to life – Process for escalation of alerts if actions are beyond the defined policy limits and triggers.
- Training programs for all employees to imbibe values in decision making:
**Risk Appetite**

**Framework**

The amount of risk a bank is willing to seek or accept in the pursuit of its long term objectives. A qualitative statement defining the playing field a bank wants to act in. It is driven by a bank's business strategy/long term objectives.
**Risk Appetite**
Sharing our experience

**Challenge:**
- Embedding the risk appetite throughout the organization and embedding it into day to day decision making
- Availability of data to effectively embed risk appetite through financial metrics

**Action:**
- Embedding Risk Appetite: Calibrate bank wide risk appetite function and decompose them into metrics for business groups, portfolios, products etc. to align operational and strategic decision
- **Financial Metrics:** Due to lack of sophistication of risk and finance data, proxy methodology to compute risk appetite objective functions were developed. For instance – Provisions for Credit Risk is used as proxy for Expected Losses

**What good looks like:**
- Enterprise wide risk appetite statements tied to key financial metrics, such as, ROE and RAROC and key management metrics and efficient allocation of capital and resources through the Bank. For instance – Entity should look to maintain Return on Equity of at least 15% (Cost of equity) at all times
- Greater connect of top management and board with line managers on risk matters

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Top Challenge

- **Efficiently cascading the risk appetite throughout the organization and embedding it into decision making**: 75%
- Using the risk appetite framework as a dynamic tool for managing risk: 55%
- Expressing risk appetite for different risk types: 47%
- Achieving sufficient clarity around the concept of risk appetite: 28%
- Determining the right metrics: 27%
Risk Appetite
Illustrative – Risk Adjusted Return on Capital (RAROC)

Risk Adjusted Return on Capital (RAROC): Provides risk based profitability measurement framework for measuring risk adjusted financial performance across the bank. It is calibrated down to business groups, portfolio and borrowers.

Illustrative Risk Appetite Statement: The bank should target a risk adjusted return greater than the weighted average cost of capital employed at all times (Hurdle Rate).

Bank wide RAROC is decomposed into the following levels and monitored periodically to ensure risk profile is aligned to overall risk appetite of the bank.

1. The chart provides an indication of which business groups earn a RAROC higher than the WACC.
2. Enables management to allocate capital on an optimal basis for those portfolios with the highest RAROC and RWA & provisions within an acceptable range.
3. Provides a borrower view of the RAROC generated vis-à-vis the RWA to the Gross Exposure.
**Risk Appetite**

Illustrative - Earnings Volatility

**Earnings Volatility (EV):** Measures earnings predictability of shareholders, the bank should aim at reducing the earnings volatility to increase earnings predictability and shareholders confidence in reported earnings.

**Illustrative Risk Appetite Statement:** The bank should target healthy earnings growth and lower earnings volatility by focusing on business segments where it maintains market leadership.

Bank wide Earnings Volatility is monitored, via, the following indicators to ensure risk profile is aligned to overall risk appetite of the bank:

1. **The chart provides an indication of the earnings volatility across business groups and those that are less volatile.**

2. **Monitoring Ratios for Earnings Volatility**

3. **Provides a perspective of the amount of interest expended by each business group to the debt / liability accepted.**

4. **Determines the amount of provisions maintained by the different groups to the interest income generated.**
Risk Assessment and Risk Reporting Framework

Top-Down

Comprehensive

Measurable

Forward looking

Credit Risk | Concentration Risk | Reputation Risk | Settlement Risk
Market Risk | Compliance Risk | Strategic Risk | Insurance Risk
Operational Risk | Country Risk | Contagion Risk | Catastrophic Risk
Liquidity Risk | Pension Obligation | Securitization Risk | Residual Risk

Impact Assessment
Earnings
Capital
Reputation

Enterprise wide – Risk Dashboards

Risk vs Performance Heat Map

ERM- Challenges and Opportunities
**Risk Assessment and Risk Reporting**

**Sharing our experience**

**Challenge:**
- The Risk Assessment undertaken are overtly complex (too detailed) and/or conducted in silos (separate reports for risks). The processes is viewed by middle management as a burdensome process rather managerial one,
- Attitude / Approach to use executive risk dashboards as a tool to state that all material risks are being taken care of.

**Action:**
- A top down approach that starts with dialogue with top management based on existing risk information and connects with risk appetite,
- Assessment not just covering risk undertaken but a perspective on risk vs. return
- Synthesized, actionable risk dashboard: Drawn from reports & documents used by top management to provide insights on past, present and future. Lay out the action plan required provide holistic status about past action plans,
- IT enablement to provide automation of data collation.

**What Good Looks Like:**
- Insights on the top 5 – 10 risks shaping future performance
- Major decisions are supported by risk insights
- Dashboard that has narrative explaining past performance, relationship to current ‘big bets’ and future implications

51% have increased focus on risk management in the past 12 months, and 87% now have separate risk and audit committees. 58% of CROs report to the CEO, and 90% have direct access to the board or work committee.

CRO Speak
“Banks are still looking at risks in silos, they do not have an aggregated, correlated view”
“Supervisors want a quantitative risk measure that can be aggregated and disaggregated – they are specific, but they can’t define it”
**Risk Assessment and Risk Reporting**

**Illustrative – Credit Risk**

<table>
<thead>
<tr>
<th>Key Risk Driver Description:</th>
<th>1</th>
<th>4</th>
<th>9</th>
<th>16</th>
<th>25</th>
<th>Entity Value</th>
<th>Assessment Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Percentage of unrated exposure to Total Credit Exposure</td>
<td>0-5</td>
<td>5-10</td>
<td>10-15</td>
<td>15-25</td>
<td>25 &lt;</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>2. Gross NPA to Gross Advances Ratio (%)</td>
<td>0-1</td>
<td>1-2</td>
<td>2-3</td>
<td>3-5</td>
<td>5 &lt;</td>
<td>2.4</td>
<td>16</td>
</tr>
<tr>
<td>3. Total unsecured credit exposure as a % of Total Credit Exposure of Entity</td>
<td>0-5</td>
<td>5-15</td>
<td>15-25</td>
<td>25-35</td>
<td>35 &lt;</td>
<td>26.4</td>
<td>16</td>
</tr>
<tr>
<td>4. Ratio of Risk Weighted Assets to Total Assets</td>
<td>0-40</td>
<td>40-50</td>
<td>50-60</td>
<td>60-70</td>
<td>70 &lt;</td>
<td>63</td>
<td>16</td>
</tr>
<tr>
<td>5. Average SMA (SMA 0 - SMA 2) as a % of Total Credit Risk Exposure</td>
<td>0-2</td>
<td>2-4</td>
<td>4-6</td>
<td>6-8</td>
<td>8 &lt;</td>
<td>2.4</td>
<td>4</td>
</tr>
</tbody>
</table>

**Overall Rating for Credit Risk (Average)**

**Key Performance Driver Description:**

<table>
<thead>
<tr>
<th>Key Performance Driver Description:</th>
<th>85 &gt;</th>
<th>85-90</th>
<th>90-110</th>
<th>110-125</th>
<th>125 &lt;</th>
<th>112</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Actual vs Targeted Net Interest Income (Actual as a percentage of Target)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend – Risk Index**

- **Low** 1 - 7
- **Medium** 8 - 14
- **High** 15 - 22
- **Critical** > 23
Risk Assessment and Risk Reporting
Illustrative - Credit Risk

Risk vs Performance Assessment Map

- Risk is not commensurate with the return generated
- Risk is greater than return generated
- Risk is commensurate to the return generated

Legends

Unrated Exposure to Total Credit Exposure
- 2012: 11.00%, 2013: 9.00%, 2014: 12.00%

Gross NPA to Gross Advances
- 2012: 2.10%, 2013: 2.90%, 2014: 2.40%

SMA Exposure to Total Exposure
- 2012: 2.10%, 2013: 2.20%, 2014: 2.40%
Credit Risk

Compliance Risk is defined as the risk of legal or regulatory sanctions, material financial loss or loss of reputation a bank may suffer as a result of its failure to comply with laws, rules, regulations, related self-regulatory organization standards, and code of conduct applicable to its banking activities.

### Name of the Entity: Bank xx

#### Key Risk Drivers Description:

1. **Amount of Penalties paid to the Regulator and authorities to Total Net Profit (%):**
   - 1: 0.1
   - 4: 0.1-0.2
   - 9: 0.2-0.3
   - 16: 0.3-0.4
   - 25: 0.4 <
   - Entity Value: 0.32%
   - Assessment Rating: 16

2. **Average Compliance Risk Score of Entity:**
   - 1: 0-2
   - 4: 2-4
   - 9: 4-6
   - 16: 6-8
   - 25: 8 <
   - Entity Value: 6.1
   - Assessment Rating: 16

3. **Amount of contingent liabilities maintained as a percentage of Total Revenue:**
   - 1: 0 - 2
   - 4: 2-4
   - 9: 4-6
   - 16: 6-8
   - 25: 8-10
   - Entity Value: 7.5%
   - Assessment Rating: 16

4. **Total Number of Show-Cause notices issued against the entity during the year:**
   - 1: 0-5
   - 4: 5-10
   - 9: 10-15
   - 16: 15-20
   - 25: 20 <
   - Entity Value: 27
   - Assessment Rating: 25

#### Overall Rating for Credit Risk (Average): 18.25

#### Key Performance Driver Description:

1. **Penalties paid during the year for non-compliance vis-à-vis average penalties paid by peers:**
   - > 100
   - 90-100
   - 80-90
   - 70-80
   - 70 <
   - Entity Value: 94
   - Assessment Rating: 4

### Legend - Risk Index

- **Low:** 1 - 7
- **Medium:** 8 - 14
- **High:** 15 - 22
- **Critical:** > 23
Risk Assessment and Risk Reporting
Illustrative - Compliance Risk

Risk vs Performance Assessment Map

- Risk is not commensurate with the return generated
- Risk is greater than return generated
- Risk is commensurate to the return generated

Compliance Risk

Amount of Penalties to Total Net Profit

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>0.17</td>
<td>0.26</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Amount of contingencies to Total Revenue

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>6.71</td>
<td>7.56</td>
<td>7.50</td>
</tr>
</tbody>
</table>

Total No. of Show Cause Notices

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>32.00</td>
<td>21.00</td>
<td>27.00</td>
</tr>
</tbody>
</table>
To support capital planning, enterprise stress testing needs to link firms’ strategic plan, business decision-making and risk management frameworks in developing and measuring effective scenarios.
Capital Management and Stress Testing
Sharing our experience

Challenge:
► Extracting and aggregating data for enterprise wide stress testing
► Quantifying capital requirements for qualitative risks
► Integration of risk and finance function

Action:
► Risk based capital allocation too that allocates capital to business groups / products / branches based on risk undertaken
► Establish risk and finance working group for collective decision making
► IT enablement: Establish systems which would enable user to collect data and perform integrated stress tests taking into account diversification benefits

Outcome:
► Provide management with integrated view of possible collation in stress scenarios taking into account various risks
► Integration of Risk and Finance Function: Capital allocation based on risk undertaken leading to capital saving through efficient utilization of capital
► Assessment of additional capital based on integrated stress testing result

75% have created and implemented new stress testing in the past 12 months, while 49% say that stress testing results are incorporated into strategic decision making.

Changes to scenario planning:
- Increased the variety of scenarios to reflect the potential risk across risk types and geographies: 69%
- Increased the severity of scenarios: 66%
- Increased involvement/collaboration with the businesses in identifying key stresses to be captured: 65%
- Increased the number of scenarios: 62%
- Utilized reverse stress testing: 45%

CRO Speak
“Our internal stress tests go way beyond what is required by the regulators”
Key Take Away
Where to Start
Priority initiatives to implement ERM Framework

1. Establish risk dialogue forum for top management to discuss risk issues at C-suite level and develop a risk charter for the board clarifying roles and responsibilities,

2. Develop Target Operating Model and ERM Policy describing enterprise risk management elements and initiatives to be implemented,

3. Challenge the current culture of entity-wide risk committees and risk reporting,

4. Develop Risk Appetite and strategy statement for the organization providing what risks to focus on,

5. Establish regular and comprehensive process for risk identification, assessment, prioritization, and reporting,

6. Develop revised set of performance metrics and establish risk-adjusted performance measures that appropriately influence behaviour and strategy (in line with defined risk appetite),

7. Do a pressure testing to assess how well prepared are you to succeed under the different futures that have been developed - Tiering of the businesses to ones that are the core, (they’ll always need to be there), winners in all scenarios, fragile-winners in some and significant value destruction in others.
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ERM- Challenges and Opportunities