Risk Management Framework in Banks

March 2014

pwc
Agenda

- Risk Management Framework – The Concept
- Regulatory Evolution Of Risk Management In Pakistan
- Risk Management Framework – SAARC Overview
- Modern Day Risk Management
- EIRM
- EIRM – Beyond Regulatory Compliance
- Risk Management – Future Perspective
Concept
Risk Management Framework – The Concept

“A comprehensive document that systematically and practically defines an implementation approach helping organisations, regardless of size; of mission, to identify events and measure, prioritize and respond to the risks challenging its most critical objectives and related projects, initiatives and day-to-day operating practices”

What it aims for?

It enhances an organization’s ability to effectively manage uncertainty
Regulatory Evolution of Risk Management - Pakistan
Regulatory Evolution of Risk Management in Pakistan

- Guidelines on Risk Management
- Guidelines on Country Risk
- Guidelines on Internal Controls/ICFR
- Guidelines on Internal Credit Risk Rating Systems
- Guidelines on Internal Controls over Financial Reporting (ICFR)
- Guidelines on ICAAP
- Guidelines on Internal Credit Risk Rating Systems
- Enhanced AML/CFT Guidelines

2003
- Guidelines on Risk Management
- Decision for adoption of Basel II - Roadmap
- Guidelines on Stress Testing

2004
- Enhanced Guidelines on Internal Controls
- SBP Basel II Framework

2006
- Risk Management Guidelines for Islamic Banks
- Guidelines on ICFR Reporting
- Stringent requirements for Tier 1 Capital
- Guidelines on ICAAP

2008
- Revision of MCR Framework under Basel II
- MCR Disclosure requirements

2009
- Guidelines on Basel III - Capital
- Enhanced Guidelines on Internal Credit Risk Rating Systems

2010
- Guidelines on Internal Control over Financial Reporting (ICFR)
- Eligibility criteria for use of external ratings in Basel II
- Stringent requirements for Tier 1 Capital

2011
- Enhanced Prudential Regulations
- Guidelines on Stress Testing

2012
- AML/CFT Regulations
- Enhanced ICAAP Guidelines

2013
- Enhanced AML/CFT Guidelines

2014
**Strengthening Risk Management – Basel and Capital Management**

- **2005**
  - Decision for implementation of Basel II and provision of initial roadmap where prescribed timelines for implementation of Standardized and transition to Advanced approaches were provided

- **2006**
  - Release of complete SBP Basel II Framework encompassing all pillars, basic and advanced approaches, their implementation considerations and timelines including parallel run, etc.

- **2007**
  - Detailed guidelines on development of Advanced Internal Credit Risk Rating Systems

- **2008**
  - Stringent requirement for Tier-1 Capital by requiring intangible assets to be deducted from Tier-1 Capital Calculation

- **2009**
  - Roadmap for annual increase in Minimum paid up Capital requirement where by the banks were required to reach a level of minimum Rs. 10 billion by 2013

- **2010**
  - Eligibility criteria for use of external ratings in Basel II

- **2013**
  - Internal Credit Risk Rating System for retail portfolio
  - Guidelines on Basel III – more Stringent Capital requirements and immediate reporting for MCR returns based on Basel III
**Strengthening Risk Management – ICAAP and Stress Testing**

**2005**
- Reporting format for the above mentioned was also prescribed

**2008**
- First guidelines on ICAAP encompassing the following areas:
  - Board and Senior Management oversight
  - Sound capital assessment
  - Comprehensive assessment of Pillar 1 and 2 risks
  - Monitoring and Reporting requirements
  - Internal control review
  - Risk aggregation

**2012**
- Revised and much more detailed Reporting Template for ICAAP released containing all details of:
  - Structure and Operations
  - Governance
  - Risk assessment and capital adequacy
  - Stress testing
  - Capital planning
  - Design, approval and review of ICAAP process
  - Risk appetite statement calculation and methodology

**2012**
- Advanced and scenario based Stress Testing encouraged together with further advanced concepts for Reverse Stress Testing
Strengthening Risk Management – Internal Controls

2004
Requirements on:
- Management’s statement on Internal Controls (Financial, operational and compliance)
- Management’s evaluation of Internal Controls
- BOD’s endorsement of the management’s statement
- Statutory auditors’ attestation on Board’s endorsement regarding effectiveness of ICFR
- Statement of Internal controls together with auditors’ attestation to be published in Annual Reports

2008
Statutory auditors required to give opinion and report on BoD’s endorsement regarding efficiency of ICFR

2009
Banks required to develop a roadmap for completion of ICFR till December 31, 2009.
Statutory auditors required to submit opinion on ICFR

2010
Banks required to submit, a review report on ICFR to SBP to assess the stages of the roadmap completed, approved by BOD or BAC.
Statutory auditors to submit Long Form Report (LFR) for onward submission to SBP.
Risk Management – SAARC Overview
Risk Management – SAARC Overview*

Afghanistan
- Capital Adequacy Regulations
- AML

India
- Risk Management
- Internal Controls
- Basel II/III
- Capital Adequacy Regulations
- AML
- Stress Testing

Sri Lanka
- Risk Management
- Internal Controls
- Basel II/III
- Capital Adequacy Regulations
- AML

Maldives
- Capital Adequacy Regulations

Nepal
- Risk Management
- Basel II/III
- Capital Adequacy Regulations
- AML
- Stress Testing

Bhutan
- Internal Controls
- Capital Adequacy Regulations
- AML

Bangladesh
- Risk Management Guidelines
- Internal Controls
- Basel II
- Capital Adequacy Regulations
- Stress Testing
- AML

* The information presented above may vary with respect to degree of accuracy as it is based on publically available information. There may be certain works in pipeline and several other supervision and inspection tools to support implementation of best practice risk management frameworks.
Modern day Risk Management
Modern day Risk Management
**Modern day Risk Management – Entity wide integration**

**Strategic aspects**
- Target markets, RAACs
- Portfolio mix/ diversification
- Capital planning and allocation
- Pricing and collateralization strategies
- Stressed projections and CAR
- Operational strategies

**Aim**
- Engage Business Units
- Integrate Risk Management in the exercise
- Seek economic research support
- Integrate budgeting with strategic planning

**Business optimization**
- **Internal controls**
- **Credit discipline**
- **Customer service**
- **Compliance**
- **Retention of critical HR**
- **Corporate social responsibility** etc.

**Value Addition**
- Better target setting for business unit and effective operational roll-out
- Better monitoring platform for decision making
- Rationalized portfolio quality
- Effective MAPs for future capital management concerns

**Perspective**
- Ownership, drive and accountability
- Independent view on planned risk exposures and markets
- Integrated annualized targets help in eventual achievement of long-term goals

**Strategic Planning**

**Dynamic market conditions**

**Overall Strategic Objectives**

**Specific Business Objectives**

**Target NPLs**

**Target Capital Adequacy Ratio**

**Target RWA**

**Target reduction in Operational losses etc.**
## Modern day Risk Management – Lines of Defense

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<thead>
<tr>
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<tbody>
<tr>
<td><strong>Credit</strong></td>
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<td>CIBG</td>
<td>CRBG</td>
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<td>- Retail</td>
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<td>- Commercial</td>
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<td><strong>Market</strong></td>
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<td>Treasury</td>
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<td>- IRR</td>
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<tr>
<td>- Liquidity</td>
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<td>- Price Risk (Investments)</td>
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<tr>
<td><strong>Operational</strong></td>
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<td>Risk Management &amp; Compliance</td>
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<tr>
<td>- Operations (Assets/ Liabilities)</td>
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<td>- Technology</td>
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<td>- Fraud</td>
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<tr>
<td>- Accounting/ Financial Controls</td>
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<td>- HR</td>
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<td>- Model</td>
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<tr>
<td><strong>Compliance</strong></td>
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<td>All Business &amp; Support</td>
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<tr>
<td><strong>Business/ Strategic</strong></td>
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<td>Risk Management &amp; Compliance</td>
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<tr>
<td><strong>Reputational</strong></td>
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<td>Internal Audit</td>
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Enterprise-wide Integrated Risk Management
Single View into Risk Management

The next generation of risk management solutions calls for an EIRM approach that encompasses all dimensions of entity and risks.

Risk Management Infrastructure
- Governance
- Strategy
- Organisational Structure
- IT Systems
- Policies & Processes
- MIS
- Risk Tools

Risk Management Process
- Risk Identification
- Risk Assessment
- Risk Mitigation
- Risk Monitoring
- Risk Reporting

Entities
- Operating Branches
- Operating Regions
- Operating Countries

Risks
- Operational Risk, Liquidity Risk
- Legal Risk, Reputational Risk
- IT Risk, Interest Rate Risk, Concentration Risk
- Country Risk, 3rd Party Risk
- Credit, Market Risk
- Business and Strategic Risk
Enterprise-wide Integrated Risk Management

Board & Board Committee

Senior Management Committee

Corporate Retail Operations Finance Treasury HR IT

Risk Management & Compliance

Internal Audit

Risk Identification
Risk Response
Management & monitoring

Overall Business Optimisation

Strategic & Operational Objectives

Compliance & Reporting Objectives

Tone at the Top Risk Authority & Accountability Performance Mgt./Risk & Rewards People & Change Capacity Building/Training Effective Processes Technology Data & MIS

Critical Success Factors
Enterprise-wide Integrated Risk Management - Objectives & Goals

Provide greater transparency and consistency to the risk and governance process across the organization

Move the organizational culture from a solely compliance focused organization to an integrated ‘Risk Management’ culture

Evangelize a philosophy of ownership and accountability for risk and control to line management

Provide a cost effective infrastructure that integrates the risk and governance framework of the organization

Improve risk management practices across the organization

Implement a coordinated, integrated, efficient and effective framework for risk management across the enterprise
Framework Implementation

STRATEGIC

- Identify Key Stakeholders
- Identify Core Objectives
- Evaluate Alternative Approaches
- Develop Vision for the Framework
- Develop Framework

TACTICAL

- Develop Phased Implementation Roadmap
- Implement Individual Domains based on Business priorities
- Implement an program for managing challenges Enterprise-wide
- Implement consistent Monitoring & Reporting
- Enhance integration into the Business Process

PEOPLE

- CEO
- COO
- CRO
- CFO
- CCO
- CIO

- Finance
- Risk
- Compliance
- Internal Audit
- Operations

- Develop a collaborative relationship between all stakeholders
- Develop strong Board and Executive Management support for Best Practice Risk Management Framework

PwC
Risk Management – Organisational Structure
Risk Management Structure

A dedicated Risk Management Function – An Illustration

President

Board Risk Committee

Chief Risk Officer

Credit Risk Review

Consumer Risk Management

Credit Risk Architecture

Operational Risk Management

Market & Liquidity Risk Management

Data & MIS

Corporate / Commercial Risk Review

Consumer Risk Architecture

Credit Risk Policy, Strategy & ICAAP

Framework Maintenance; RCSA & KRI

Market Risk Policy, Modeling & Analytics

SME Risk Review

Consumer Risk Review / Portfolio Management

Credit Modeling & Analytics

Loss Data Management; Data Analysis & Reporting

Middle Office

FI Risk Review

Credit Portfolio Management

Country Risk Management

Asset Liability Management

PwC
Risk Management – Risk Areas
Operational Risk
Asset Liability Management
**Key Initiatives**

- Risk Governance and Independence
- Credit Risk Model Upgradations
- Risk Technology Investments
- Data Enrichment
- Concentration Management
- Internal Control Programme
- Operational Risk Advancements
- Relatively Advanced Stress Testing
- Independent Risk Review
- ALCO’s role in ALM
**Systems and Automation**

- **Significant Headways Made**
  - End to End Credit Cycle Automation
  - Consumer Front End
  - Core Banking

- **Core Banking Solutions**
  - MYSIS Equation
  - Temenos T-24
  - FIS Profile
  - Sungard Symbols
  - Oracle i-Flexcube

- **Credit Solutions**
  - IBM Algorithmics - Credit Manager
  - Theta Origins
  - Emmaculate Nucleus
  - Sungard Ambit

- **Consumer Solutions**
  - Vision +
  - SAS
  - Iflex Reveleus
  - Sungard Ambit
  - Theta Origins
  - Emmaculate Nucleus
  - Triad

- **Risk Automation Solutions**
  - IBM Algorithmics
  - SAS
  - Moody’s
  - Iflex Reveleus
  - MISYS Almonde
  - Temenos T-risk
  - Sungard Ambit
  - Oracle Hyperion

**Increasing Awareness - Structured and Systematic Approach for Automation**

- **Risk Engines/ Systems**
- **Business Intelligence**
- **Core Banking upgrades**
- **Core Banking Enhancements**

**Data Warehousing Initiatives**

- **Data quality**
- **Data controls**
- **Data integration**
- **Meaningful MIS**
- **Efficiency**
Key Challenges

- WALL between Risk Management and Business
- Resistance to Change Management
- Entity-wide Risk Management Awareness
- Compliance vs. Business Approach to Implementation
- Risk Talent and Retention
- Individual vs. Corporate Ownership and Succession Planning
- Risk Authority, Accountability, Performance Management and KPIs
- Supporting Strategic and Operational Frameworks
- Data and MIS Structure as well as Quality
- Risk and Supporting Core and Analytical Applications
- Meaningful Industry Assessments and RAACs
- Risk Model Predictability and Back Testing
- Programme Breaches and Inefficiencies (reasons such as multiple projects, resource planning etc.)
- Risk Integration into Strategic Planning
- Model Integration with Business Decisions
- ICAAP
### Globally acknowledged need for change

<table>
<thead>
<tr>
<th>Category</th>
<th>% Recognise need to change</th>
<th>% Developing strategy to change</th>
<th>% Plans to implement change programme</th>
<th>% Change programme underway or completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Governance</td>
<td>8</td>
<td>16</td>
<td>17</td>
<td>33</td>
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<tr>
<td>Approach to managing Risk</td>
<td>11</td>
<td>19</td>
<td>22</td>
<td>31</td>
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<tr>
<td>R &amp; D and Innovation Capacity</td>
<td>13</td>
<td>22</td>
<td>24</td>
<td>27</td>
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<tr>
<td>Use and Management of Data and Data Analytics</td>
<td>12</td>
<td>21</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td>Organisation Structure/ Design</td>
<td>7</td>
<td>21</td>
<td>25</td>
<td>35</td>
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<tr>
<td>Technology Investments</td>
<td>10</td>
<td>19</td>
<td>27</td>
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<tr>
<td>Talent Strategies</td>
<td>12</td>
<td>22</td>
<td>27</td>
<td>32</td>
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Source: PwC Global 17th CEO Survey
EIRM - Beyond Regulatory Compliance
Initiatives strengthening EIRM

- Business Process Re-engineering/ Improvement
- Automation/ System optimisation
- Centralisation
- Organisational Restructuring
- Other focused Advanced EIRM Tools
- FATCA
- AML/ KYC

EIRM Domain Enhancement EIRM
### EIRM - Moving beyond regulatory compliance

**Advanced Risk Management and Monitoring**

1. **Econometric Credit Models**
2. **VaR based Market Models**
3. **Econometric Behavioural Model for ALM**
4. **Behavioural Scorecards for Consumer**
5. **Quantification of Risk Appetite/ Tolerance**
6. **Risk Based/ Adjusted Capital**
7. **Predictive mechanisms for Risk Management**
Risk Management – Future Perspective
**Future of Risk Management**

**CRO**

CROs need to play a pivotal role in organisational success for dealing with evolving regulatory, business and operational challenges and global trends.

<table>
<thead>
<tr>
<th>Local challenges</th>
<th>Global trends</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Portfolio Rationalisation</td>
<td>- Basel III</td>
</tr>
<tr>
<td>- NPL Management</td>
<td>- Sound Capital Planning Process</td>
</tr>
<tr>
<td>- New Products and Markets</td>
<td>- Risk Data Aggregation and Reporting</td>
</tr>
<tr>
<td>- New Processes/ Process Improvements</td>
<td>- AML/ KYC Enhancements</td>
</tr>
<tr>
<td>- New Projects</td>
<td>- Foreign Account Tax Compliance Act (FATCA)</td>
</tr>
<tr>
<td>- Capital Management aligned with Strategic Outlook</td>
<td>- OECD Common Reporting Standards</td>
</tr>
<tr>
<td>- Industry Assessments and Ratings</td>
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<tr>
<td>- Model Integration into Decision Making</td>
<td></td>
</tr>
<tr>
<td>- ALM and Balance Sheet Management</td>
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<tr>
<td>- Evolving Regulatory Requirements (liquidity, leverage and capital surcharges/ buffers)</td>
<td></td>
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</tbody>
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# Risk Based Capital Management

## Capital Management

<table>
<thead>
<tr>
<th>Capital strategy</th>
<th>Risk appetite</th>
<th>Risk profile</th>
<th>Limit framework</th>
<th>Capital structure optimisation</th>
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<tbody>
<tr>
<td>Capital planning</td>
<td>Strategy and business planning</td>
<td>Capital planning</td>
<td>Capital allocation</td>
<td>Value creation</td>
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<td>Capital modelling</td>
<td>Risk measurement</td>
<td>Stress testing</td>
<td>Risk integration</td>
<td>Risk monitoring</td>
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<tr>
<td>Governance</td>
<td>Board engagement</td>
<td>Senior mgmt engagement</td>
<td>Cross functional roles</td>
<td>Crisis roles</td>
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<td>TOM</td>
<td>Processes and organization</td>
<td>Internal controls</td>
<td>Risk adjusted performance &amp; pricing</td>
<td>Limits</td>
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<td>Performance evaluation</td>
<td>Performance measurement</td>
<td>Reporting</td>
<td>Incentives &amp; compensation</td>
<td>Disclosure</td>
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