Proactive Loan Monitoring & Best Practices for an Effective Early Warning System

Speakers

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CRISIL Risk Solutions
Agenda

• Why Early Warning (EW)?
  – Key drivers of EW in the banking space

• What has really changed?
  – Evolution of monitoring approach over time
  – Traditional monitoring vs early warning

• How can early warning aid strategic decision-making?
  – The power of risk intelligence

• Early Warning Intelligence Mechanism
  – Defining the trigger library is the key

• Implementation of EWS
  – Typical process, challenges & critical success factors
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Early warning has become a principal focus area in the banking sector in the recent months

*Source: World Bank*
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Evolution of monitoring approach tries to address need for a dynamic, holistic borrower risk view

<table>
<thead>
<tr>
<th>Highlights</th>
<th>Periodic monitoring of standard accounts</th>
<th>Early warning / proactive monitoring</th>
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<tbody>
<tr>
<td>- Tracking repayment performance</td>
<td>- Tracking account conduct of borrower</td>
<td>- Multi-dimensional, holistic borrower assessment</td>
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<tr>
<td>- Focus on recovery in case of default</td>
<td>- Involvement of branches for on-the-ground visits</td>
<td>- Leveraging of technology to minimise manual effort</td>
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<table>
<thead>
<tr>
<th>Challenges</th>
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<tr>
<td>- Limited borrower insight b/w renewals</td>
<td>- Limited leveraging of data and high manual discretion</td>
<td>- Data availability and integrity issues</td>
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<td>- Action only once default has taken place</td>
<td>- Limited scope for evolution to data analytics</td>
<td>- Challenges in minimising false positives</td>
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- Annual review / stressed asset management
Early warning transcends traditional monitoring through institutionalisation of a proactive risk culture

<table>
<thead>
<tr>
<th>Traditional Monitoring</th>
<th>Early Warning</th>
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<tr>
<td><strong>Approach</strong></td>
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<tr>
<td>Reactive</td>
<td>Proactive</td>
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<tr>
<td><strong>Focus</strong></td>
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<tr>
<td>Primarily on big ticket borrowers</td>
<td>Across all borrower segments</td>
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<tr>
<td><strong>Frequency</strong></td>
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<tr>
<td>Quarterly/semi-annual borrower review</td>
<td>Periodic, near real-time assessment of borrowers</td>
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<tr>
<td><strong>Visibility</strong></td>
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<tr>
<td>Information asymmetry b/w branches &amp; RMD</td>
<td>Borrower visibility across monitoring value chain</td>
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<tr>
<td><strong>Breadth</strong></td>
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<tr>
<td>Lack of consolidated borrower view</td>
<td>360° view of borrower</td>
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<tr>
<td><strong>Output</strong></td>
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</tr>
<tr>
<td>MIS based on manual data cleaning, analysis</td>
<td>Risk intelligent dashboards with drill-downs</td>
</tr>
</tbody>
</table>
A holistic risk assessment of the borrower leverages multiple data sources both internal and external to bank.
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Risk intelligent analytics glean portfolio insights to enable well-informed strategic decisions

Overall Portfolio Distribution

- **High Risk [PERCENTAGE]**
  - No. of accounts: 190
  - Exposure: INR 1900 Cr
  - % Exposure: 19%

- **Medium Risk [PERCENTAGE]**
  - No. of accounts: 270
  - Exposure: INR 2700 Cr
  - % Exposure: 27%

- **Low Risk [PERCENTAGE]**
  - No. of accounts: 540
  - Exposure: INR 5400 Cr
  - % Exposure: 54%

- **No. of accounts: 540**
- **Exposure: INR 5400 Cr**
- **% Exposure: 54%**
Powerful and granular insights can act as feedback mechanism to strengthen loan lifecycle management.

**Risk Distribution by Vintage (Months on board)**
- 12M to 24M
- 6M to 12M
- More than 24M
- Upto 6 months

**Risk Distribution by Source Channel**
- Branch referral
- Direct sales Agent
- Direct sales team
- Others

**Risk Distribution by Granularity**
- Upto 5 Million
- 5 to 10 Million
- 10 to 15 Million
- 15 Million and above

**Risk Distribution by Internal Risk Rating**
- IR1
- IR2
- IR3
Drill-down analytics from portfolio to borrower level enable a focused, pin-point root-cause analysis

**Distribution by Region**
- North: 42%
- South: 27%
- East: 21%
- West: 10%

**North Zone**
- Rajasthan: 48%
- NCR: 19%
- Punjab, Haryana, HP & JK: 18%
- UP & Uttarakhand: 15%

**Top 5 Risky Borrowers**
1. Company 1: 5.6 Billion
2. Company 2: 5 Billion
3. Company 3: 2.5 Billion
4. Company 3: 2 Billion
5. Company 5: 1.5 Billion
Further drill-down into borrower assessment helps identify specific stress areas requiring deeper focus

<table>
<thead>
<tr>
<th>Dimension wise risk assessment</th>
<th>Borrower name: Company 1</th>
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<td>Account Conduct</td>
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<tr>
<td>Compliance</td>
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<tr>
<td>Liquidity</td>
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<tr>
<td>Management/Promoters</td>
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<tr>
<td>Business Operations</td>
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<tr>
<td>External Factors</td>
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</table>

- **Account Conduct**: Score 54
- **Compliance**: Score 20
- **Liquidity**: Score 75
- **Management/Promoters**: Score 65
- **Business Operations**: Score 80
- **External Factors**: Score 30
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A multidimensional trigger library ensures holistic risk assessment of borrowers

Identifying a library of powerful early warning signals is the most critical component of the overall EW process.
Analysis of account conduct behaviour provides a dynamic source of early warning information

Examples of EW Trigger Dimensions

- Delay in interest servicing
- Reduction in limit/drawing power
- Decline in credit-debit summation
- Cheque returns
- BG invocation/LC devolvement
- Crystallisation of export bills
- High utilisation of limits
- Credit summation not matching reported sales
Monitoring of compliance discipline among borrowers helps enhance risk detection

Examples of EW Trigger Dimensions

- Delay in submission of stock statement
- Renewal overdue
- Security creation incomplete
- Security under-insured
- Delay in submission of statutory statements such as:
  - Audited financials
  - OFI (other financial information)
  etc.
Financial analysis provides a reality check through benchmarking against peers/estimates

Examples of EW Trigger Dimensions

- **Size**: Actual sales not matching estimates etc.
- **Profitability**: EBITDA margin, RoCE, Net Profit Margin etc.
- **Capitalisation**: TOL/TNW, Debt/Equity
- **Coverage**: Interest Coverage Ratio, DSCR etc.
- **Liquidity**: Current Ratio, Quick Ratio
- **Efficiency**: Debtors as Days Sales, Gross Current Assets as Days Sales, Days inventory as Cost of Sales etc.
On-the-ground signals the most effective indicators of potential stress though difficult to automate

Examples of EW Trigger Dimensions

- Inaccessible/non-cooperative borrower
- Diversion of funds
- Delay in payment of salaries to staff
- High stock rejection
- Labour unrest
- Dispute amongst promoters
- Negative reference check from:
  - Competition
  - Vendors
  - Suppliers
  - Other banks
Risk detection can be enhanced through external intelligence to broaden the spectrum of assessment

Examples of EW Trigger Dimensions

- Adverse developments in borrower’s industry with respect to:
  - Competition
  - Regulations
  - Input prices
  - Demand-supply gap etc.

- Decline in CIBIL score of company/promoter

- Downgrade in external rating/outlook

- Negative news in media/social media
Powerful early warning signals differentiate adverse behaviour while minimising noise
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What is the average lead time between the trigger point and actual default event?
Powerful early warning signals differentiate adverse behaviour while minimizing noise.

- What is the average lead time between the trigger point and actual default event?
- How frequently does the trigger 'occur' in bad borrowers?

Diagram:
- Signal Strength
- Strike Rate
- Discriminating Power
- Trigger Definition
Powerful early warning signals differentiate adverse behaviour while minimising noise

- What is the average lead time between the trigger point and actual default event?
- How frequently does the trigger ‘occur’ in bad borrowers?
- How much more often does the trigger occur in bad borrowers vs good ones?
Powerful early warning signals differentiate adverse behaviour while minimising noise

- How frequently does the trigger ‘occur’ in bad borrowers?
- What is the average lead time between the trigger point and actual default event?
- How much more often does the trigger occur in bad borrowers vs good ones?
- What variation of the trigger yields best results in terms of identifying bad borrowers?
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Implementing an Early Warning System: A functional framework

**Bank's Portfolio**
- Internal
  - Account Conduct
  - Compliance Check
  - Financial Analysis
- Preliminary Assessment

**External**
- Industry factors
- Bureau actions
- External ratings
- Social media

**Screening**
- High Risk
- Medium Risk
- Low Risk

**Customer Pulse**
- Business Operations
- Financial Operations
- Management/Promoters
- Stock & BD Analysis

**Corrective Action Plan**

**Automated Assessment**

**Manual Assessment**

**Risk Solutions**

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Implementing EWS – Key activities

1. Identify key stakeholders
   - Identify EWS owner
   - Identify other stakeholders

2. Developing trigger library
   - Define benchmarks and criticality
   - Define frequency of monitoring

3. Data field mapping
   - Identify source systems
   - Automate data consumption

4. Workflow configuration
   - Map bank hierarchy to system roles
   - Define TAT, escalation matrix

5. System integration
   - Interface with identified source systems of banks
   - Map companies and users

6. Go live
   - Testing
   - Training
Case study: Key learnings from implementing EWS in two of India’s largest banks

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<tr>
<th>Stage</th>
<th>Challenge</th>
<th>Mitigation</th>
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<td>Trigger selection</td>
<td>Identification of relevant set of triggers</td>
<td>• Started with an expert judgment model</td>
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<td></td>
<td>• Overdesigned data capture to enable future analytics</td>
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<tr>
<td></td>
<td></td>
<td>• Conducted back-testing</td>
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<tr>
<td>Data analysis / back-testing</td>
<td>Concatenation of data from different source systems</td>
<td>• Normalised frequency of data</td>
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<td></td>
<td>• Aggregated data from account to borrower level</td>
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<tr>
<td></td>
<td>Lack of ‘bads’ (defaults) for statistical analysis</td>
<td>• Relaxed definition of ‘bads’</td>
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<tr>
<td>Data-field mapping</td>
<td>Data unavailability</td>
<td>• Used proxy variables</td>
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<tr>
<td></td>
<td></td>
<td>• Made necessary changes to source systems</td>
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<tr>
<td></td>
<td></td>
<td>• Used UDF/Excel uploads</td>
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<tr>
<td></td>
<td>Data integrity issues</td>
<td>• Used case-to-case mitigation approaches</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Strengthened data capture process in source system</td>
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<td></td>
<td>Lack of historical data</td>
<td>• Assumed default values or deactivate trigger until availability of</td>
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<td></td>
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<td>adequate history</td>
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<td></td>
<td></td>
<td>• Set up temporary web portal to collect branch data</td>
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Successful implementation of EWS contingent on critical data and people-related success factors

- Data availability
- Data integrity
- Centrally empowered early warning team
- Training
- System adoption
Thank you

For more questions, pleas write to us on:

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