



## Key Risk Indicators


**Conference on Operational Risk Management  
Karachi, 7-8 February 2013**



 **What is an indicator?**

- Some definitions from the Web:
  - a signal for attracting attention
  - a pointer or index that indicates something
  - a meter or gauge
  - a statistic used to measure conditions
  - A measurable variable (or characteristic) that can be used to determine the degree of adherence to a standard or the level of quality achieved

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## What is an indicator?

- A good definition from the Web:
  - An indicator can be defined as something that helps us to understand where we are, where we are going and how far we are from the goal. Therefore it can be a sign, a number, a graphic and so on. It must be a clue, a symptom, a pointer to something that is changing. Indicators are presentations of measurements. They are bits of information that summarize the characteristics of systems or highlight what is happening in a system.

[http://hostings.diplomacy.edu/baldi/malta2001/statint/Statistics\\_Int\\_Affairs-27.htm](http://hostings.diplomacy.edu/baldi/malta2001/statint/Statistics_Int_Affairs-27.htm)

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## What is a Risk Indicator?

- *Risk indicators are parameters which focus on business processes or process bundles to predict upcoming changes in the operational risk profile of those business processes or process bundles.*  
*(Gerrit Jan van den Brink, former Head of Operational Risk Control, Dresdner Bank AG)*
- A Key Risk Indicator (KRI) by definition is an indicator that is key
- However, the industry has adopted the term KRI without much distinction.

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## Indicator data

- Indicator data are on the dashboard of the operator
- Primary use of indicator data in a bank:
  - Operations
  - Security
  - Risk Management
  - Management Information
- Indicators used are mainly:
  - Performance Indicators (KPI)
  - Control Indicators (KCI)
  - Risk Indicators (KRI)

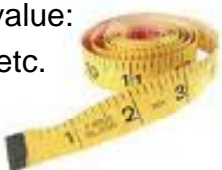


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## Indicator value types

- Risk Indicators should be numeric in value:
  - Count, number, percentage, ratio, etc.
  - Numbers help to track changes, show trends and forecasts
- Control Indicators can be either numeric or yes/no:
  - Yes/no indicators show fulfillment or failure of a status
  - Numeric indicators show the deviation from a tolerance level
- Performance Indicators are typically numeric:
  - They measure the degree of success



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## Information on the dashboard

- The dashboard can only show actual data; these data are basic indicators.
- Basic indicators are often used as underlying indicators for derived indicators, e.g. percentage or ratio.
- Indicator data are snapshots and present conditions during or at the end of the measurement period
  - KRIs must often be considered in a time line to add value
  - KCIs do not necessarily need a history, although this may be useful for analytical purposes
  - KPIs may not need a history

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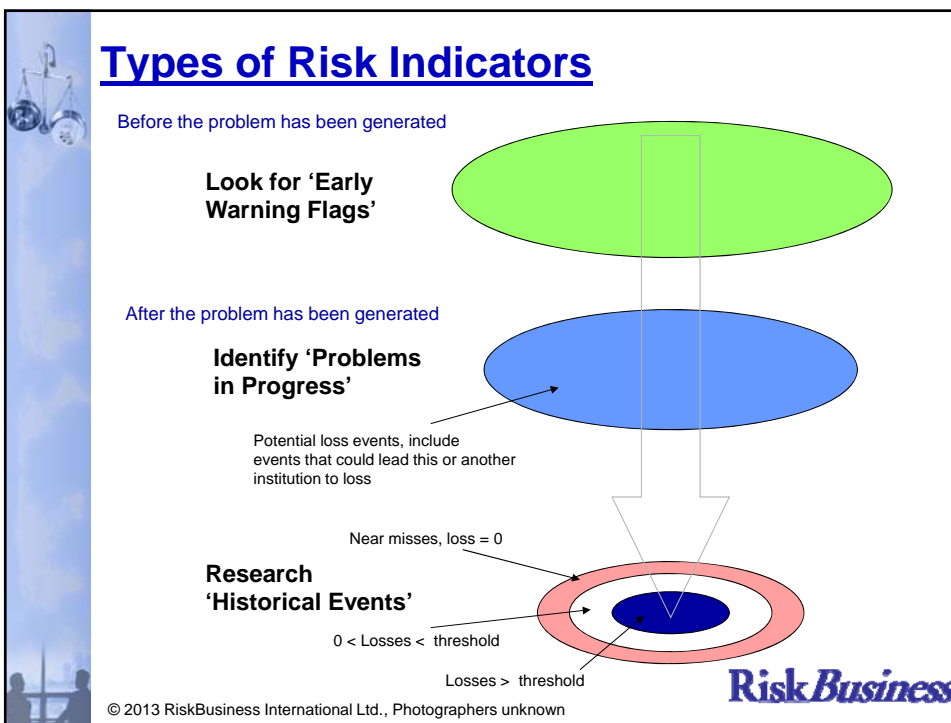
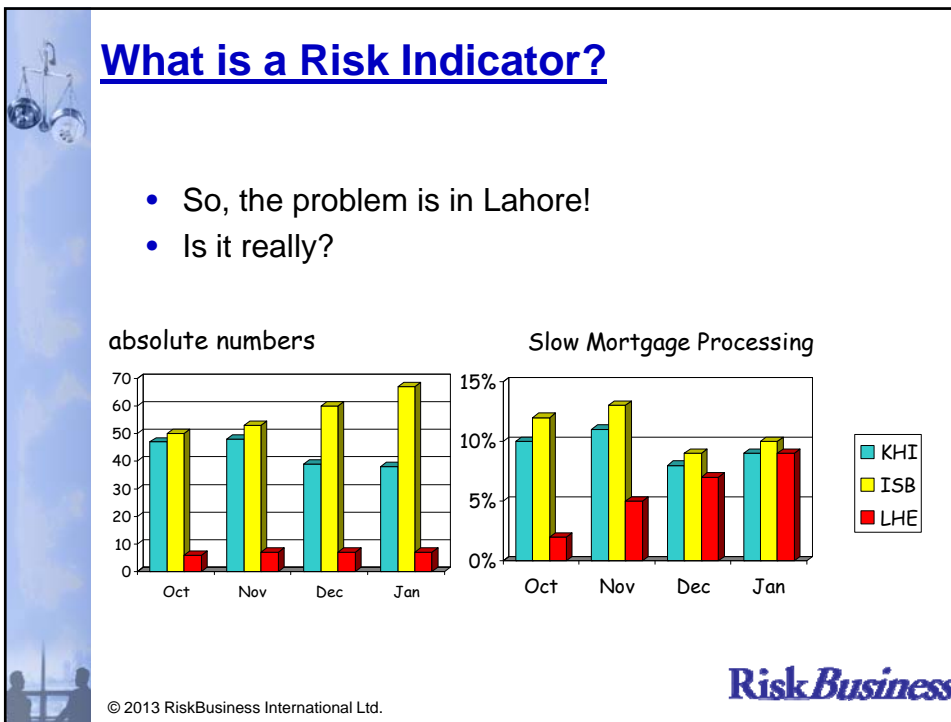
## What is a Risk Indicator?



- Mortgage processing in January exceeding target return timeframe:  
Karachi 9%, Islamabad 10%, Lahore 9%
- In which location do we have a problem?
- Risk indicators are usually monitored over time

Slow Mortgage Processing

Month	KHI (%)	ISB (%)	LHE (%)
Oct	10	12	2
Nov	11	13	5
Dec	8	9	7
Jan	9	10	9

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Marc Leipolt

There have been suggestions that KRIs should predict losses. This is fundamentally wrong. KRIs should be an indicator of risk, not loss; the difference is important

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### Is it the right indicator?

- Everybody wants predictive indicators
- Very few indicators are predictive by default, the attribute depends on the specific environment
- Regular testing of the indicator is necessary:
  - usefulness
  - effectiveness
  - comparability
  - reliability
  - ease of use
- The indicator must be in a position to identify and measure exposure to allow managing and mitigating it.

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## Who should work with indicators?

- Everybody who needs to track and manage something:
  - Line managers, workers
  - Analysts
  - Controllers
  - Internal auditors

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## Commonly collected indicators

<p><b>Top Down KRIs</b></p> <ul style="list-style-type: none"> <li>• Mandated by Management</li> <li>• Based on macro risk information needs</li> <li>• Non-negotiable</li> <li>• Examples:               <ul style="list-style-type: none"> <li>▪ Number of delinquent card accounts</li> <li>▪ Percentage change in number of customers</li> <li>▪ Number of aged items on suspense accounts</li> </ul> </li> </ul>	<p><b>Bottom Up KRIs</b></p> <ul style="list-style-type: none"> <li>• Chosen by the business unit</li> <li>• Based on business necessity</li> <li>• Flexible</li> <li>• Examples:               <ul style="list-style-type: none"> <li>▪ Number of broken payment promises</li> <li>▪ Number of customers needing special attention</li> <li>▪ Number of sick leave days</li> </ul> </li> </ul>
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## Risk Management view of bottom-up KRIs

- Indicators contain bottom up data
- Important indicators make it to the top

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## Aggregation of KRI data

**RiskBusiness** Business Entity Submission Report  
 Current Business Entity (Click To Change): Consumer Lending Business

Home Services Maintenance Activities About Sign Off

Finished | Print | Download PDF | Download Word

Monthly **Pre-Oct data input at CLB Level**

10758L - ATM Skimming - Number of Accounts Compromised by Skimming Attacks

	Dec 2010	Jan 2011	Feb 2011	Mar 2011	Apr 2011	May 2011	Jun 2011	Jul 2011	Aug 2011	Sep 2011	Oct 2011	Nov 2011	Average	Range
Consumer Lending Business	2	0	1	6	0	0	15 <sup>1</sup>	11	13	0	22 <sup>2</sup>	33 <sup>2</sup>	9	33
Credit Card Management											9	33 <sup>3</sup>	10	33
Bangkok											0	25 <sup>4</sup>	13	25
Chiangmai											7	0	4	7
Hatyai											2	8 <sup>5</sup>	5	6
Debit Card Management											13		8	11
Bangkok											0		0	0
Chiangmai											1		1	0
Hatyai											12		12	0

**Notes**


- all events at ATM no. 422
- ATM no. 214 fit with skimmer on 20 November Suspected skimming of a ABC Bank ATM in Songkhla
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- Suspected skimming of a ABC Bank ATM in Songkhla

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## Missing Submission Report

- A report should be drawn on missing data submissions for any level equal and below the requesting unit
- In the example, Debit Card Management has not submitted their November data yet, the responsible supplier is Hansruedi Schuetter



The screenshot shows the RiskBusiness web application interface. At the top, it displays the 'Missing Submission Report' for 'Consumer Lending Business'. Below this, there is a table titled 'Debit Card Management' with the following data:

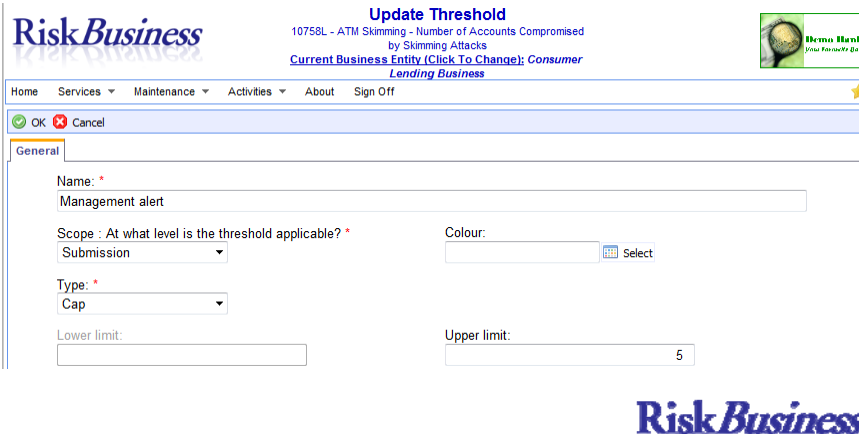
KRI	Period	Providing Users
10758L - ATM Skimming - Number of Accounts Compromised by Skimming Attacks	Nov 2011	Hansruedi Schuetter,

- Users should be reminded by e-mail when their submission period opens and when their submission is overdue

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## KRI Thresholds

- Thresholds can be set as caps, floors, collars or trends
- Several thresholds may be set for the same KRI with different recipients of alerts



The screenshot shows the 'Update Threshold' configuration page in RiskBusiness. The page title is 'Update Threshold' for '10758L - ATM Skimming - Number of Accounts Compromised by Skimming Attacks'. The 'General' tab is active, showing the following fields:

- Name: \* Management alert
- Scope: At what level is the threshold applicable? \* Submission
- Type: \* Cap
- Lower limit: [Empty field]
- Upper limit: 5
- Colour: [Empty field] Select

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## Triggers

- Triggers can be set as e.g. touch, repetitive touch or repetitive percentile

**RiskBusiness** 10758L - ATM Skimming - Number of Accounts Compromised by Skimming Attacks Management alert  
 Current Business Entry (Click To Change): Consumer Lending Business

Home — Services — Maintenance — Activities — About — Sign Off

OK Cancel

Details Notifications

Name: \*  
 Management alert

Trigger type: \*  
 Touch

Interval count:

Interval span:

Percentile:

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## Alerts

- E-mail alerts upon criteria match should be sent to individual users or a pre-defined job function

**RiskBusiness** 10758L - ATM Skimming - Number of Accounts Compromised by Skimming Attacks Management alert  
 Current Business Entry (Click To Change): Consumer Lending Business

Home — Services — Maintenance — Activities — About — Sign Off

OK Cancel


Details Notifications

Available users:  
 Alfredo Roisenzvit  
 Andy Smith  
 Garth Hinton  
 James Pratley  
 Jonathan Davies  
 Michaelle Marais  
 Mike Finlay  
 Peter Walsh

Notified users:  
 Hansruedi Schuetter  
 test user ハカマナ

Job functions to notify:  
 Demo Bank  
 Worldwide  
 Retail Division  
 Consumer Lending Business  
 CEO (Prof. The Boss)

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## E-mail Alert – Threshold Cap Broken

- The moment the threshold cap is breached in the KRI Monitoring System, the defined recipients of the alert should be notified

From: Operational Risk [info@riskbusiness.com] Sent: Mon 05-Dec-11 8:47  
 To: Hansruedi Schuetter  
 Cc:  
 Subject: KRI Monitoring Warning

**The following KRI monitoring alerts have occurred:**

Alert raised	KRI	Period Ending	Details	Submitted on
12/5/2011 7:47:06 AM	10758L - ATM Skimming - Number of Accounts Compromised by Skimming Attacks	11/30/2011	Submission dated 'Nov 2011' for KRI '10758L' has a value on or above the cap threshold 'Management alert'.	12/5/2011 7:47:05 AM


Please click [here](#) to view further details.

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This email has been scanned by the Symantec Email Security.cloud service.  
 For more information please visit <http://www.symanteccloud.com>

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## The difficulty of setting thresholds

- Many supervisors and regulators demand KRI thresholds from the start.
- For many indicators, this is not possible, unless an alibi threshold is set.
- Historical data, trends and the responsible manager's comfort level should all be part of the threshold decision.

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## OpRisk Management Reports

etc.

overtime

deal breaks

account closures

sick leave

staff turnover

timely processing

IT downtime


etc.

- Do more reports add value to management?
- More reports = satisfying the regulator?

etc.

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## Avoiding useless information

- Typical danger #1 :
  - Data without context
  - Data not relevant for those not directly involved
  - Data from a silo perspective
  - Late, incomplete, inaccurate data
- Typical danger #2 :
  - Unfiltered data flood
- Consequence:  
Getting lost in details

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## Management buy-in

- Reports must add value
- Management buy-in depends on credibility
- Credibility is a function of
  - expertise
  - accurate and timely reporting in a proper fashion
  - visible achievements
- KRIs per se do not usually add value in a management report, an analysis based on KRIs does.

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## KRI Benchmarking

- Analyzing data from different branches with similar business conditions and of different size allow you to better control branches and see risks at a branch at an earlier stage
- To allow benchmarking of branches of different sizes and business conditions, scaling down to a common denominator is recommended
- What works internally can also be done across the industry in KRI Benchmarking Consortia.  
RiskBusiness facilitates such closed user groups in some parts of the world, maintaining strict anonymity of all members.

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## Summary

- Key Risk Indicators are not ready-made solutions to your problems, they are tools.
- Without good data quality, i.e. completeness, accuracy and timeliness of data, KRIs are pretty much useless.
- KRI data need to be analyzed and interpreted.
- And often, several KRIs need to be bundled together in an analysis, particularly in senior management reports.

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## Contact Details



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