Key Risk Indicators

Presented by:
Mr Peter Matruglio
Partner Risk Advisory Services, Deloitte

Mr Brad Tymmons
Enterprise Risk and Insurance Manager, EnergyAustralia

Monday 1<sup>st</sup> September 2014
Key Risk Indicators
Concepts and Examples
Protecting and enhancing organisational value

Key Risk Indicators (KRIs) can provide more meaningful information to both set and achieve strategic goals.

- **Identify Risk**: What are our goals and aspirations? What strategic risks must we effectively manage to achieve our goals & aspirations? How much risk will we accept in order to achieve our goals and aspirations? i.e. What is our risk appetite?

- **Define Sources of Risk**: Identify key assumptions underpinning When to Play and How to Win options. Define and evaluate events or scenarios that can impact WTP & HTW choices – positively or negatively.

- **Establish KRI**: What resources & capabilities do we need to manage risks to acceptable levels as we implement our strategy? How can we monitor emerging risks which can adversely impact on our strategy? i.e. What “risk sensing” capabilities do we need? Agility to respond to material risk events if they occur.

- **Where to Play?**: Embed risk assessment into the strategy development process. Review and test assumptions (Risk adjusted forecasting). Identify key lead and lag indicators and create early warning indicators.

- **How to Win?**: Monitor and report on lead and lag risk indicators. Embed risk sensing into strategic risk review processes.

- **Required Capabilities?**: Configuration of Processes and Systems?
Today’s companies face a growing number of **disruptors**, which can **generate strategic risks** that may go unrecognised and unaddressed. Through KRIIs, organisations can better anticipate risks, adapt to disruptors and seize opportunities.

- **Disruptors** are trends and forces that will likely impact — and even transform — an industry by opening up new and different value opportunities as well as additional areas of risk.

- **Disruptors include the following trends and forces**, which impact ways in which all industries and companies strategise and perform:

  - **Technological**
  - **Demographic**
  - **Regulatory**
  - **Economic**
  - **Geopolitical**
Understanding sources of risk

Key findings - Drivers of value loss

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentive programs that reward short-term performance may create unsustainable models of profit and companywide risks.</td>
<td>How compensation and culture can impact risk taking by the company. Does it encourage risk taking within or outside the bounds of the company’s risk appetite?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>M&amp;A can sometimes fail to deliver the anticipated value.</td>
<td>The viability of the M&amp;A deal to deliver anticipated returns under different and stressed economic scenarios.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unexpected “black swan” events often caught companies by surprise, leading to value-killer losses.</td>
<td>Deploying broader scenario planning and stress tests to envision and plan for the consequences of a broad range of risks and rare events.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost 90% of the companies suffering the greatest losses in value were exposed to more than one type of risk. In most cases, an event exposed one major weakness that cascaded through the organization.</td>
<td>Not looking at risks in isolation, and construct scenarios to assess what could go wrong in confronting the event and subsequent events across an enterprise and the ecosystem. Identify and evaluate buffers that help mitigate against cascading risks.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>The global financial crisis made liquidity risk more salient and increased the cost of capital to those with high leverage and low ratings.</td>
<td>Current liquidity and cash reserves, and stress test the ability to navigate a future credit crisis. Work to ensure sufficient lines of credit from traditional and alternate sources of capital.</td>
</tr>
</tbody>
</table>

Source: “The Value Killers Revisited”, Deloitte, 2014
Understanding sources of risk – value killers

Source:
Example – commodity transport

Level 1

Commercial
Operations
Enterprise

Level 2

Supply Chain
Capacity Planning
Contract
Market
Capacity Deployment
Service Disruption Events
Business Sustainability
Finance
Human Resources
Insurance

Level 3

Network
Flex
Liabilities and Indemnities
Input Costs
Rollingstock
Force Majeure
Carbon
Payment
Employee / Industrial Relations
Coverage
Port
Crewing
Disputes and Variations
Product
Crewing
Capability and Resourcing
Treasury
Premiums
Mine
Rollingstock
Significant Change in Circumstances
Safety and Health
Other Regulation, taxes and levies
Example – commodity transport

Some potential KRIIs

- Cancelled services #/%(lagged)
- Delayed services #/%(lagged)
- Forecast rainfall (leading)
- Network volume / usage forecast (lagged/leading)
- Network scheduling historical patterns (lagged)
- Asset maintenance compliance (lagged)
- Mine/commodity supply/demand (leading)

It should be noted some lagged indicators can be used to derive predictive/leading indicators
## Key strategic risk:
Failure to deliver on customer expectations for new service offerings including pricing, scalability, privacy, security and sales.

### Illustrative only

<table>
<thead>
<tr>
<th>Directional statements</th>
<th>Sources of risk</th>
<th>Key Risk Indicators</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Appetite</strong></td>
<td>Regulatory - Consumer</td>
<td>Product segment complaints #</td>
<td>Customer re-reports faulty services within 7 days</td>
</tr>
<tr>
<td>Wilful breaches or breaches of laws or regulations such as the Privacy Act and CCA</td>
<td>Regulatory - Privacy</td>
<td>product segment complaints#</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CCA, Privacy Breach</td>
<td></td>
</tr>
<tr>
<td><strong>Low Appetite</strong></td>
<td>Strategic – Product</td>
<td>Sales revenue vs. plan</td>
<td></td>
</tr>
<tr>
<td>for lack of growth</td>
<td>Strategic – Growth</td>
<td>Product market share vs. plan / trend</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial – Shareholder</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Low – Moderate Appetite</strong></td>
<td>Operational – Customer</td>
<td>Customer satisfaction score</td>
<td></td>
</tr>
<tr>
<td>Customers – service and product offerings that impact the ability to attract and retain customers</td>
<td>Strategic – Product</td>
<td>Overall product satisfaction score</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strategic – Growth</td>
<td>No Level 1 Complaints Day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strategic – Pricing</td>
<td>Gaps to best competitor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial – Shareholder</td>
<td># Calls into call centre and right first time</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>System availability %</td>
<td></td>
</tr>
<tr>
<td>Technology and Networks – Poor system and data integration</td>
<td>Operational – Business Continuity</td>
<td>% transactions online vs. plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operational – Technology and Networks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Illustrative only

Customer re-reports faulty services within 7 days

<table>
<thead>
<tr>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper limit</td>
</tr>
<tr>
<td>Upper trigger</td>
</tr>
<tr>
<td>Lower trigger</td>
</tr>
<tr>
<td>Lower limit</td>
</tr>
</tbody>
</table>

No Lower Limit

Risk profile is between the upper trigger and limit. Escalation to consider corrective action.

© 2013 Deloitte Touche Tohmatsu
Using KRIss

**Credit Risk**

**Appetite Statement**
Will ensure client monies are only placed with approved depository institution that are rated AA, as a minimum and is within established risk limits

**Dashboard**
- **Critical Measure**
  - % of deposits by C/P ($)
  - Current
  - Trend: ↓
  - Outlook

**Key Risk Indicators**
- **Measure**
  - Bank A (US)
  - Bank B (ANZ)

**Health & Safety**

**Appetite Statement**
No appetite for death, permanent disability or time lost because of insufficient safety protocols

**Dashboard**
- **Critical Measure**
  - Current
  - Trend: =
  - Outlook

**Key Risk Indicators**
- **Measure**
  - OHS Compliance Training completed (%)
  - Project risk safety assessment

**IT Failure**

**Appetite Statement**
Moderate risk appetite with manual systems and outage of non-critical internal systems. There is a low appetite for risks associated with the integrity of financial reporting systems that may result in reporting of information that is inaccurate and/or not timely.

**Dashboard**
- **Critical Measure (system outages)**
  - No of days of outages
  - Current
  - Trend: ↑
  - Outlook

**Key Risk Indicators**
- **Measure**
  - System category A MTO actual/testing
  - System category B lower MTO actual/testing
General information only
This presentation contains general information only, and none of Deloitte Touche Tohmatsu Limited, its member firms, or their related entities (collectively the “Deloitte Network”) is, by means of this presentation, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this presentation.

About Deloitte
Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/au/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu Limited and its member firms.
Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte’s approximately 195,000 professionals are committed to becoming the standard of excellence.

About Deloitte Australia
In Australia, the member firm is the Australian partnership of Deloitte Touche Tohmatsu. As one of Australia’s leading professional services firms. Deloitte Touche Tohmatsu and its affiliates provide audit, tax, consulting, and financial advisory services through approximately 6,000 people across the country. Focused on the creation of value and growth, and known as an employer of choice for innovative human resources programs, we are dedicated to helping our clients and our people excel. For more information, please visit our web site at www.deloitte.com.au.
Liability limited by a scheme approved under Professional Standards Legislation.
Member of Deloitte Touche Tohmatsu Limited

RIMS CONFIDENTIAL INFORMATION. Do not disclose without express permission of RIMS General Counsel. Recording of this session via any media type is strictly prohibited.
A snapshot of EnergyAustralia in 2013

- Powering the lives of 2.7 million Australian homes and businesses
- Making a lasting $1.6m in sponsorships, donations and community
- Keeping our people safe - the ultimate goal is zero harm
EnergyAustralia

Power generation
- The largest privately held supplier of generation output to the National Electricity Market (“NEM”)
- A reliable fuel supply through ownership and diversification

Retail electricity and gas
- Australia’s third largest retailer (market share of 25%)

Gas processing and storage
- Owner of the largest underground gas storage facility in Australia
- Long-term gas storage contracts

RIMS CONFIDENTIAL INFORMATION. Do not disclose without express permission of RIMS General Counsel. Recording of this session via any media type is strictly prohibited.
Vertical Integration

Generation Capacity

Bought Contracts

Generation Energy

Available for Sale

Electricity

Balanced Capacity

National Electricity Market

Electricity

Balanced Energy

Sold Contracts

I&C/Business Load

Mass Market Retail Load

Sales

Load Swing

Energy Markets

Pricing, forecasting & green certificates

Outage planning, bidding & dispatch

Channels to Market

Operations & Construction

RIMS Risk Forum 2014

31 August – 2 September, 2014 / Sydney, Australia
Interesting KRI fact...

A study in 2009 found that 40% of financial services firms were in the process of developing and implementing KRIs however there is not much information on the type of KRIs being developed and their effectiveness in managing operational risk.
Management of Risk

**Counterparty contractual agreements:**
- Wholesale trading
- C&I Portfolio
- Procurement
- Treasury Limits
- Contingent Liabilities

**Energy Market risk measures:**
- Stress Tests
- Earnings at Risk
- Volumetric Limits

**ERM:**
- Risk profiling
- Distribution modelling
- Risk Committee reporting
- KRI monitoring
KRI Context

So what are we looking for?

Trends
Data Patterns
Interdependencies

And what is our purpose?

Support executive decision making for the achievement of our strategic objectives.
The analysis

- Our BU’s develop quantitative and qualitative KPI’s

<table>
<thead>
<tr>
<th>C&amp;I</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gross Margin (m)</td>
<td>YTD</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>OPEX excl B&amp;DD (m)</td>
<td>YTD</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Sales Retention Vol - GWh</td>
<td>YTD</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Sales Acquisition Vol - GWh</td>
<td>YTD</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>EBIT (m)</td>
<td>YTD</td>
<td>●</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer Service</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategic NPS</td>
<td>Mth End</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>C1 Ombudsman Complaints/10k acc</td>
<td>Mth End</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>ASA</td>
<td>Mth End</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Abandonment rate</td>
<td>Mth End</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Grade of Service C1</td>
<td>Mth End</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Registration pipeline &gt; 90 days</td>
<td>Mth End</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>LUB &gt; 30 days (active &amp; final)</td>
<td>Mth End</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Gross Online Sales</td>
<td>YTD</td>
<td>●</td>
</tr>
</tbody>
</table>

We analyse these KPI’s for impact on the Risk Profile
Are we observing a change to the Risk Appetite?

- Green / Amber within Appetite. Amber would indicate we are approaching threshold and action is required.
- Assurance / Control activities are not operating effectively.

- Red is outside of Appetite and immediate action is required.
- Assurance / Control activities are not operating effectively.
## KRI BOARD REPORTING

<table>
<thead>
<tr>
<th>Risk</th>
<th>Indicator</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Safety</strong></td>
<td>Total Injury Frequency Rate</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>EA Integration Project</strong></td>
<td>SIT Phase 2 / Program Testing</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>Mass Market B&amp;DD</strong></td>
<td>Unbilled &gt; 30 days</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Collections (SLA performance)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Bad Debt to Revenue Ratio</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>People, Processes, Systems</strong></td>
<td>Vol T/O (%) Rolling 12 mth avg</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Unscheduled Absence (%)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Trading Risk Management System</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>Operational</strong></td>
<td>DRP Program Status</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>BPO Optimisation</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Overdue audit items past due date</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>Reg Change and Compliance</strong></td>
<td># of sig/higher breaches / mth</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td># of ombud. comp/10k accts / mth</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td><strong>Catastrophic Plant Failure</strong></td>
<td>RCAP Status</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Plant Maintenance Plan Performance</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td></td>
<td>Forced Outage Factor Maintenance</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
LEADS TO DECISIONS BASED ON PREVIOUSLY ANALYSED COST/BENEFITS
HOW DID WE DEVELOP OUR KRI CAPABILITY?

- Define our tolerance to strategic objectives
- Identify leading indicators based on the key drivers of our business
- Assign thresholds to indicators and focus risk discussion on amber / red indicators
- Report forward looking
- Drive a decision or an action
- Importantly: we (Corporate Risk) didn’t create more reporting from the business, we use indicators the business has already built and is using to report.
EXAMPLE: WHOLESALE GROSS MARGIN

Driver:
Usage

Impacts:
Weather
Technology
Structural Economic shift
Behaviour

RIMS CONFIDENTIAL INFORMATION. Do not disclose without express permission of RIMS General Counsel. Recording of this session via any media type is strictly prohibited.
KRI DRIVEN ACTIONS in 2013/2014

- Establish new governance
- Third party sales agents
- Plant maintenance regimes
- Asset life maintenance plans
- Establishment of Enterprise Project Management Office
- Travel policy (Melbourne/Iona on same day)
- Spares parts inventory – purchase of transformers
- Purchase of Weather derivative products (mild winter/summer)
- Relinquish option to purchase wind farm
Thank You