Introductions

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Session Agenda

- Background – Introductions to KPIs and Scorecards
- How are Scorecards and Performance Metrics being used in Mining?
- Potential Approach to Implementing KPIs and Scorecards
- Overview of Technology solutions available
- Questions & Discussion
Key Challenges facing Mining Companies

- Linkage between operational and financial planning to improve predictive (forecasting) ability
- Operations value-enhancing decision making enabled through accurate and timely financial (cost) information
- Improved management information; data accuracy, speed, forward looking
- Cost containment, high commodity prices and escalating input costs
- Accurate guidance to the “street” and other financial stakeholders (banks, debt holders, etc) around performance
- Increased responsiveness and agility to respond to opportunities (M&A, production changes, etc.)
- Alignment of staff across the organization – from mine site to Corporate office – to common goals and objectives
- Lack of accountability / ownership for performance management
Performance Management is focused on Closing the Value Gap

Most mining companies today are successful in capturing and accessing data, transforming data into business information, and making data available to users, however…

…they are not as successful in directly linking information to action, and its corresponding value.
To be effective, KPIs must directly reflect the company’s vision and objectives

Key Questions

- What is our purpose and primary aims as an organization?
- What do we want to achieve?
- How and where are we going to compete to realize our vision and mission?
- What do we need to do to achieve our objectives?
- What measurements will influence and report our success? How will we know when we get there?

Example: Fresnillo plc

- Create value for stakeholders across precious metals cycles through ongoing investment in exploration and mine development, operational excellence, and a strong commitment to disciplined and sustainable growth.
- Produce 65 million ounces of silver per year and over 400,000 ounces of gold per year by 2018, and supporting that level of production for at least 10 years.
- Operate: run operations at full capacity, replacing reserves, generating continuous improvements in productivity and cost controls, utilizing technology and leveraging expansion opportunities
- Total production (ounces)
- Equivalent ounces per person
- Cost per tonne (by mine)
- Proven and Probable Reserves

Source: 2010 Annual Report
For Mining companies, KPIs provide the integration between Operational and Corporate (Financial) planning.

- **Geological Models**
- **Mine Plan(s)**
  - Life of Mine (LOM) Plan
  - Long Term (5/10 yr) Mine Plan
  - Annual Mine Plan
  - Short Term Mine Plans
- **Corporate Financial Planning**
  - Long Term Plan
  - Annual Budget (Operating/Capital)
  - 18 month rolling forecast (Operating/Capital)
- **Corporate Reporting**
  - Financial Statements
  - Statutory Reporting
  - Variance Analysis
  - Value Driver Trees
  - KPI Reporting
- **Mine Financial Models**
- **Mine Scheduling/Execution Transaction Processing (Ops/Mtce)**
- KPIs
- Actual Production Statistics/Data
- Actual Financial and Cost Data

Driving Operational and Financial Improvements using Balanced Scorecards and Key Performance Indicators

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**Key Benefit: Provide Actionable Data Across the Enterprise**

- Information in the hands of users in a language they understand, customized to their role
- The ability to monitor information across the entire mining value chain in a timely and consistent fashion
- Aligns entire organization around a common set of metrics / desired outcomes (normally operational or cost focused)
- Improve the partnership and communication between all functions in order to drive faster/more effective decision making to enhance shareholder value
- Culture where cost performance is recognized as a key driver of shareholder value
- An embedded process (i.e. metrics and decision support tools) that enables companies to better identify trends and anticipate changes
- Integrated to budgeting / forecasting to enhance financial guidance
- Close to real time data – available daily / weekly / monthly depending on type of metric, allowing much quicker time from analysis to action
- Integration of Operational and Financial planning / forecasting

Leveraging KPIs, staff at all levels will have access to information relevant to their specific roles which can help them take appropriate actions to drive shareholder value
KPIs should be cascaded down through the organization, from corporate office to mine site

**Level 1 KPIs**
- Used to measure the overall cost performance of each site and should be targeted to the C-Suite for reporting

**Level 2 KPIs**
- Main cost categories that contribute to total cost and the drivers of total production
- Targeted to the VP Group for reporting and investigation

**Level 3 KPIs**
- Major process area under operations (e.g. exploration, development, drilling, etc.) and all material costs under site administration (e.g. Admin, SHEQ, etc.) including lower level cost drivers (e.g. metres drilled, etc.)
- These metrics should be targeted to the Site GMs

**Level 4 KPIs**
- Operations and maintenance costs associated with each major process area
- Managed by the Site Superintendents, enabling them to narrow down performance issues and understand variances to the fixed and variable components of their cost base.
Example: Operations KPIs and Review Process

Cascading KPI hierarchy example

Six key cost metrics for each key mining value chain process beneath the total Mining ($/t) metric.

Three key metrics driving Drilling ($/m) – one financial, two operational.

Three primary metrics driving Operating Costs ($/hr).

Operational metrics frequently drive cost outcomes – this linkage is critical.

1. Collate and Analyse Monthly Results
2. Identify Major Variances Against Plan
3. Determine Causes of Major Variances
4. Define Mitigation Projects/Action Steps
5. Monitor and Track Progress of Action Steps

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High Level Approach to Performance Management

1. Define the ‘right’ metrics
2. Define a scorecard hierarchy for all departments
3. Design departmental scorecards
4. Create a KPI “dictionary”
5. Set appropriate targets for each metric
6. Determine the reporting process, responsibility and timing
7. Establish a formal performance management approach
8. Link to individual performance plans
Case Study – International Mining & Resources Company

The Situation

- Lack of a consistent means to track progress towards strategic objectives, both at Business Unit and Corporate levels
- Reports primarily historical in nature
- Difficult to quickly understand the underlying drivers of business performance and to explain variances between actual and forecast performance
- Many reports too long to be useful, and difficult to understand
- Report generation an onerous process with a significant duplication of effort
- No access to weekly dashboard information to understand how core performance metrics are tracking mid-month
Case Study – International Mining & Resources Company (continued)

What Was Done?

• Local BU management identified set of cross-business metrics (iterative process)
• Key metrics include:
  ➢ Operational performance (including costs)
  ➢ Employee Health & Safety
  ➢ HR / People
  ➢ Financial performance (Revenue, Cost, Cash)
  ➢ Project update
  ➢ Other (IT, Supply Chain)
• Initial reporting leverages excel-based templates, to be moved to longer term technical solution as a future step

What Were the Results?

• Improved transparency of results at Corporate Office
• Alignment of BU and Corporate leadership on key objectives (common definition of success)
• More productive management meetings – metrics provide focus
**Operations Monthly Report Presentation Example**

**Current Month Production (lbs)**

- **Forecast Production**: 1,811,069
- **Tonnes Impact**: (1,020,956)
- **Grade Impact**: (382,859)
- **Recovery Impact**: 127,620
- **Actual Production**: 534,874

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<th>Grade</th>
<th>Recovery</th>
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<td>98.73%</td>
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**Year to Date Production (lbs)**

- **Forecast Production**: 5,085,948
- **Tonnes Impact**: (2,805,854)
- **Grade Impact**: 854,033
- **Recovery Impact**: 356,785
- **Actual Production**: 3,490,912

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**Total Operating Costs ($ CAD)**

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<td>Forecast</td>
<td>13,822,536</td>
<td>Variance</td>
<td>5.3%</td>
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**Cost per Pound ($ CAD/lb)**

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<td>Actual</td>
<td>27.20</td>
<td>Forecast</td>
<td>7.63</td>
<td>Variance</td>
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**Comments and Mitigation Actions**

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Report Presentation Example – Health & Safety

Safety, Healthy & Rewarding Workplace

July 2011

Medical Aid (#) & 12 Month Rolling Average (#/Mhrs)

- Actual MRA: 1.42
- Target MRA: 1.50
- Variance: -5.6%

Lost Time Injuries (#) & 12 Month Rolling Average (#/Mhrs)

- Actual MRA: 1.17
- Target MRA: 0.82
- Variance: 42.3%

Radiation Dose per FTE (mSv)

- Actual MRA: 1.39
- Target MRA: 1.50
- Variance: -7.4%

Employee Absenteeism (%)

- Actual MRA: 5.58
- Target MRA: 5.00
- Variance: 11.7%

Comments and Mitigation Actions

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The technology solution to enable Performance Management has several components.
There are many technology solutions to support performance management

- Performance Management software includes a wide range of solutions including budgeting / forecasting, financial and management reporting, consolidation and scorecards
- MS Excel remains the predominant tool to support many clients' needs
- Market dominated by large providers, who have expanded their capabilities by acquisition
- Smaller, niche solutions are also available
There are many other providers in the Business Intelligence space to manage data as part of KPI reporting

- Many tools are available to support data extraction, manipulation and presentation as part of a KPI / Scorecard project
- Most of the tier 1 ERP solutions have some capability to provide KPI reporting and scorecards
Implementing KPIs and Scorecards - Hazards to Avoid

- Too many measures
- Internal bias
- Historical orientation versus forward looking
- A focus on data, not information
- Failure to understand definition of KPI or source of data
- Over emphasis on external benchmarking

Rules of thumb:
- When in doubt, keep it simple
- Focus on understanding the core parts of the business
- Focus on value
A focus on Performance Management will be an important element in maximizing shareholder value

- Mitigate risk by proactively managing change in business
- Drive understanding and accountability throughout organization
- Identify continuous improvement opportunities
- Leverage technology to support decision making
- Improve the partnership and communication across the organization
Discussion Questions

1. What are the most important information gaps you are faced with in your company?

2. What is the most significant obstacle / objection that needs to be addressed to successfully implement KPIs in your organization?

3. What types of metrics would you find most valuable to track?
Thank you!

Continue the conversation ...

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