Business Turnaround Strategies

Tirwirei Bingudza

BINMAK CORPORATION
"A turnaround is the financial recovery of a company that has been performing poorly for an extended time. To effect a turnaround, a company must acknowledge and identify its problems, consider changes in management, and develop and implement a problem-solving strategy"
Introduction to Binmak

Turnaround Strategy Steps

Operational Turnaround Strategies

Case Studies

Operational Turnaround Results
We partner with your teams and equip them to implement the World renowned ISO55000 Physical Asset Management Standard to reduce risk to the business processes by increasing equipment reliability.

We partner with your teams to Define, Measure, Analyse, Improve, and Sustain Results Driven Operational Performance.

We partner with your teams to ensure that the Right Work is done at the Right Time in the Right Way for predictable, consistent business results and to deliver to expectations.
Who We Are

The Binmak Solutions team has over 25 years of experience in the mining industry gained across diverse geographies, several commodities and various mining value chain steps. With significant experience in:

- Capital Project Management
- Integrated Business Planning
- Strategy Development
- Business Performance Improvement
- Physical Asset Management
- Information Technology Systems

The Binmak Solutions team brings:

- A unique and powerful combination of expertise and experience.
- Broad, yet in-depth knowledge which gives us a holistic view grounded in solid experience
- Ability to help operations perform better and optimise capital and resource deployment
- International experience covering South Africa, USA, Chile, Brazil, The Philippines, The Republic of Ireland, Namibia, Botswana and Zimbabwe which gives us perspectives and insights that bring significant value to our diverse range of clients.
The Binmak Approach

Five factors differentiate Binmak Solutions:

– **Results as the means, as well as the end:** We use progressive success to breed more success while building confidence and capability of the client.

– **Delivery of value – not just recommendations:** We partner with our clients to improve Key Value Drivers.

– **Speed used to mitigate risk:** We help organizations improve performance in short time frames - often less than 100 days - and then leverage these achievements to inform larger transformations.

– **Integrated approach across organisational hierarchy, value chain & disciplines:** We work across the organisation in order to create broad ownership for the process, the results and for the changes that are critical to achieve desired outcomes.

– **Development of our clients:** We believe that sustainability depends on capability hence we strive to empower our clients through training and coaching.
Introduction to Binmak

Turnaround Strategy Steps

Operational Turnaround Strategies

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Operational Turnaround Results
Turnaround Strategy Steps

- Define The Problem
  - Define The Solution – Questions are the answers
- Company Strategy
  - Vision, Mission, Values
- Financial Strategy
  - Breakeven Analysis
  - Balance Sheet Restructuring
  - Free cashflow
  - Financial Forecast
- Marketing Strategy
  - Revenue Streams
  - Client Retention.
- Competitive Strategy
  - Competitive Analysis
- Management Strategy
  - Rightsizing
  - Talent Retention Plan
- Operating Plan
  - Performance Improvement
Prospective Global Demand Growth (2007-17 CAGR)

- Red circles = Markets in Which Anglo Participates
- Blue circles = 'Un-served' Markets
- Bubble size represents avg. 2008-17 EP of c.$560M
Business Portfolio (Illustrative)

Prospective Global Demand Growth (2007-17 CAGR)

- **CASH COW**
  - Large + Cash Flow

- **STAR**
  - + or – Cash Flow

- **DOG**
  - + or – Cash Flow

- **QUESTION MARK**
  - Large – Cash Flow

**Key:***
- Red = Markets in Which Anglo Participates
- Black = Bubble Size Represents Avg. 2008-17 EP of c.$560M
- Blue = 'Un-served' Markets
**Business Portfolio (Illustrative)**

- **Prospective Global Demand Growth** (2007-17 CAGR)
  - **High** (25%) - Selectivity / Earnings
  - **Medium** (15%) - Harvest / Divest
  - **Low** (0%) - Harvest / Divest

- **Average GDP Growth**
  - 0% to 30%

- **Markets in Which Anglo Participates**
  - Copper
  - Nickel
  - Thermal Coal
  - Aluminium
  - Uranium
  - Group Metals
  - Diamonds
  - Mineral Sands
  - Seaborne Iron Ore
  - Coal

- **Selectivity / Earnings**
  - **Invest to Grow**
  - High
  - Medium
  - Low

- **Invest to Hold**
  - Medium
  - Low

- **Invest to Divest**
  - Low

- **Prospective Global Demand Growth**
  - 0% to 6.0%

- **Bubble Size**
  - Represents Avg. 2008-17 EP of c.$560M

- **Unserved Markets**

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**BINMAK SOLUTIONS**

We Deliver On Our Promise
**WHAT IS THE CORRECT MEDICINE?**

<table>
<thead>
<tr>
<th>Internal Factors</th>
<th>Strengths (S) 5-10 most substantial internal strengths</th>
<th>Weaknesses (W) 5-10 most serious internal weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External Factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities (O) 5-10 most important opportunities</td>
<td>SO Strategies Strategies that use strengths to take advantage of opportunities <em>(Growth)</em></td>
<td>WO Strategies Strategies that take advantage of opportunities by overcoming weaknesses <em>(Turnaround)</em></td>
</tr>
<tr>
<td>Threats (T) 5-10 major threats</td>
<td>ST Strategies Strategies that use strengths to avoid threats <em>(Diversification)</em></td>
<td>WT Strategies Strategies that minimize weaknesses and avoid threats <em>(Defensive)</em></td>
</tr>
</tbody>
</table>
Business Operating System

Strategic control of a business cannot be achieved through performance measurement systems but through levers of control.
Business Operating System

**Belief System**
Strategy as a Perspective

**Boundary Control System**
Strategy as a Position

**Interactive Control System**
Strategy as Patterns in action

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**Mission**

**Vision**

**Values**

**Risks To Be Avoided**

**How to Compete**

**Business Expectations**

**Strategic Uncertainties**

**Scenarios (Unknown Unknowns)**

**Global Trends**

**Business Planning**

**Business Execution**

**Business Control**

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**Business Strategy**

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BINMAK SOLUTIONS
We Deliver On Our Promise
Business Control System

Plan
- Financial Schedule
- Operating Master Schedule
- Production Strategy
- Service Strategy
- Performance Targets

Execute
- Cost & Work Approval
- Work Planning
- Work Scheduling
- Work Execution

Resourcing

Check
- Measure Performance
- Process
- Work Management
- Social

Act
- Analyse
- Improve
- Feedback

Business Expectations

Business plan

Performance

Improvements/Adjustments

We Deliver On Our Promise
Strategic Context

Knowing desired competitive position on cost curve is critical

Lion Story

Source: AME 2010 FOB cost curve
Moves to third quartile ore cost curve by 2021

2017 FOB Real Cost US$/t

Source: AME 2010 FOB cost curve

2021 FOB Real Cost US$/t

Source: AME 2010 FOB cost curve
Mines are forecast to be at competitive parity in 2017, delivering 21¢/dmtu

* Captures committed and probable seaborne production; Notes: (1) 59.4% lump and 40.6% fines with 64% Fe lump and 63.5% Fe fine; (2) includes product quality premiums and discounts; Royalties are included in realised revenue calculations, and excluded from business costs; (3) Effective tax rate of 36% assumed for Sishen and 33% for all other mines (4) Excludes China; Source: CRU
EFFICIENCY VERSUS EFFECTIVENESS

Strategic Management

Effective | Ineffective
---|---
Efficient
Thrive
1 | Die slowly
2
Inefficient
Survive
3 | Die quickly
4
Operational Management
Building The Strategic Plan

Clarify the Vision
- Mission, Values
- Strategic Shifts (From - To)
- Strategic Framework

Develop the Strategy
- Strategic Analysis
- Strategy Formulation

Translate the Strategy
- Map & Link to Goals
- Set measurable objectives
- Measure and set targets

Plan and execute
- Strategic Initiatives
- Planning and resourcing
- Accountability

Strategic plan

- Value gap
- Change agenda
- Vision

- Strategic issues
- Strategy Direction
- Strategic Themes

- Goals & Objectives
- Measurement framework
- Performance contracts

- Priorities
- Resourcing
- Initiative Teams
Agenda

1. Introduction to Binmak
2. Turnaround Strategy Steps
3. Operational Turnaround Strategies
4. Case Studies
5. Operational Turnaround Results
Why Business Performance Improvement?

“There is a Hidden Mine behind every mine. Effective Asset Optimisation will unearth this Hidden Mine”
“If a company tells me they experience moving bottlenecks, my response is: You have NO bottlenecks and most of your resources have at least 30% spare capacity”

– Dr Eli Goldratt
“If you want to make money, ... most of your resources MUST be IDLE from time to time”

– Dr Eli Goldratt
“A production chain with 80% availabilities can produce at lower unit cost than a chain with 90% availabilities”
## Business Performance Improvement (BPI) Process

<table>
<thead>
<tr>
<th>Assess</th>
<th>Define</th>
<th>Measure</th>
<th>Analyse</th>
<th>Improve</th>
<th>Control/Sustain</th>
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<tbody>
<tr>
<td>Technical Systems</td>
<td>Identify where the biggest value is</td>
<td>Determine potential value at stake</td>
<td>Intensive, data driven process to analyse, identify and validate root causes</td>
<td>Solutions, Validated Control actions, and improvement implementation</td>
<td>Share knowledge, Respond to performance deviations</td>
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<td>Management Methods</td>
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<td>Mindsets &amp; Capabilities</td>
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<tr>
<td>Baseline, Benchmarks</td>
<td>Bottleneck/Constraints</td>
<td>Full potential, Value @ Stake</td>
<td>Validated root causes</td>
<td>Improvement Plan &amp; Projects</td>
<td>Updated procedures</td>
</tr>
<tr>
<td>Tools &amp; Methods</td>
<td>Process Capability, VSM, TOC</td>
<td>Value Driver Model Capacity Analysis</td>
<td>Statistical Analysis, Root cause</td>
<td>Project Charters, WBS</td>
<td>Control Charts, Dashboards</td>
</tr>
</tbody>
</table>

**BINMAK SOLUTIONS**

*We Deliver On Our Promise*
Value Creation Through Strategy Delivery

Value Waterfall

Leg 1: Current Operations

Leg 2: Value Chain

Leg 3: Growth

Leg 4: SD

Value ($bn)

+1.78 (+11%)

+0.57 (+3%)

+2.02 (+11%)

Northern Limpopo Growth

Total Bene-ficiation 2e Footprint

Total Solar Project

Total

Current NPV

Q1’11 Price Change + Macro Econ’s

LOM Changes

Budget Changes

Production

New NPV

AO

Thaba

Current Ops

Niche Product Strategy

Logistics

Total

Kolo-mela

Total

Bene-ficiation 2e Footprint

Total Solar Project

Total

19.66

20.98
Key Questions Addressed by Value Optimisation

1. What is the realistic business expectation?
2. What is the realistic business aspiration?
3. How should the asset be strategically managed to optimise value potential?
4. Is there material risk in delivery?
5. What are the key risks faced by each asset?

A. **Capability vs Budget**: Determine gap between current capabilities (C80) and Budget

B. **Likely production (C80)**: Level which will be achieved on average with a confidence of 80%, assuming no changes to the process

C. **Potential incremental improvement (P75)**: A production level that could be achieved in the near future if the process is stabilised and optimised (aspirational)

D. **Appropriate optimisation strategy for asset**: Distribution shape - Indication of required effort to improve output

E. **Mean (C50)**
Type of Intervention Required for Improvement

Analysis of the shape of the Capability Histogram may indicate where the process resides on the Output/Effort curve and hence give an indication of the intervention required and where the operation is relative to full potential.
Variation
How did you do? What can the process do?
Variation

How did you do?  What can the process do?
Variation

How did you do?  What can the process do?
Asset strategies to optimise value...

The key focus of value optimisation will be on stabilising the process to get predictable and consistent performance.
Key Learning:

- Coupled variation causes constraints
- Process capacity causes constraints
- Seldom does everything ‘align’ to give full potential
- Reducing the variation in each process step caused the whole system to perform significantly better
Scientific Fact 1
All Resources Fluctuate Over Time

Input 10 Output

Performance

Time

Max
Ave
Min

0
10
12
Scientific Fact 2
Interdependence Impacts The Whole Chain
The variations do not average out!

Mineral Resource → A → B → C → D → E → F → Product

Blockage  Starvation
The poor performance of one link gets passed onto the flanking link, and ultimately to the rest of the chain.
Combined Effect of Variation and Interdependence

![Graph showing combined effect of variation and interdependence.](image-url)
Combined Effect of Variation and Interdependence
Appropriate and specific value improvement strategies will be determined for each asset depending on its position on the value optimisation curve.
**Tool set for analyses**

**Throughput:** Do we have a Rate or Operating Time problem?

**Value Driver Analysis:** Which are the biggest value levers?
*Operating Profit, Volume, Unit Cost, Sensitivity & Attribution Analysis*

**Value Stream Mapping & Statistical Analysis** *(Process Capability, Paretos, Control Charts, Constraints Analysis)*

**Performance Improvement:** “The most powerful driver of better performance is better performance itself”

BINMAK SOLUTIONS

*We Deliver On Our Promise*
Output: Determination of full potential of operations, summarized by 4 waterfalls...

Throughput (Mtpa)

Unit Cost ($/t)

Productivity (t/FTE)

NPV ($m)
Summary of AO Strategy in Action

The Theory of constraints tells us where to focus e.g. hauling

Theory of constraints tells us where to focus e.g. hauling

Value driver model tells us what to focus on within the constraint

Gap analysis vs. benchmark tells us how much we can improve

Target setting keeps us focused on delivery

Variance and Attribution analysis shows us the impact on business drivers

Drill & Blast -> Load -> Haul -> Transfer -> Process -> Logistics

- Hauled Tons
- Drill & Blast OEE
- Shovel OEE
- Cycle Time
- Payload
- Fleet Size
- Utilisation (DOH)
- Empty time
- Full time
- Hauling OEE
- Actual
- Benchmark
- Engineering Downtime
- FY 2012
- FY 2011
- Performance excluding project
- Actual
- Benchmark
- YTD 2012
- YTD 2011
- Trucks
- Payload
- DOH
- Cycles/Hour
- Budget

Target setting keeps us focused on delivery

Variance and Attribution analysis shows us the impact on business drivers
Examples of Some of the Analysis that will be Produced

<table>
<thead>
<tr>
<th>Best Attn Capacity</th>
<th>Load/Haul</th>
<th>JIG/DMS</th>
<th>Transfer</th>
<th>Drill/Blast</th>
<th>Potential Tons</th>
</tr>
</thead>
</table>

**Capacities & Constraints**

Focus on bottleneck

- **% Change in cost**
- **% change in revenue**

**Impact of interdependent variables** (Example: Change drilling burden)

- **Drill Yield**
- **Drill cost**
- **Explosive**
- **Labour**
- **Plant Yield**
- **Cycle time**

- **Lump/Fine**
- **Floor Stock**
- **Payload**

**Attribution and Sensitivity Analyses to determine focus areas and impact**

= Bubble size equals NPV of the specific initiative only. Not the aggregated value of the initiatives

= Bubble size equals OP impact of the specific metric only. Not the aggregated Impact

**Base Case**
Journey Towards Commercial Excellence

Migrate from Passive Marketing to Integrated Miner

1. **Passive marketing model**
   - Long position for trader
   - Value chain not fully optimised

2. **Active Value-Chain Optimisation**
   - Limited emphasis on customer interface, i.e. uses agencies and deals with traders/merchants
   - Value chain partially optimised

3. **Customer centric marketing model**
   - Interfaces directly with customers – limited use of agencies and traders/merchants
   - Small in house trading unit with limited scale
   - Value chain mostly optimised

4. **Integrated miner-trader model**
   - Interfaces directly with customers - Trading unit sells all equity volumes
   - Sizable fraction of 3rd party volumes sourced and traded
   - Value chain fully optimised

Primary focus of marketing

Marketing function shared with traders

Marketing optimises physical value chain

Marketing maximises value of upstream assets

Marketing as important as mining and source of profits on its own
Value potential of Asset Backed Optimisation

**ABO Concept**

**Illustrative**

**Annual trading EBITDA ($M)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Initial target EBITDA ($M)</th>
<th>Long-term sourcing ($M)</th>
<th>Freight arbitrage ($M)</th>
<th>Geographic arbitrage ($M)</th>
<th>Quality arbitrage ($M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First trading steps – Basic levers only</td>
<td>39-67</td>
<td>14-26</td>
<td>4-7</td>
<td>18-30</td>
<td>2-4</td>
</tr>
<tr>
<td>Additional upside</td>
<td>28-58</td>
<td>67-125</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Quality arbitrage** – Blend different coal qualities to match customer needs and achieve higher net price realisation

**Geographic arbitrage** – Capture regional price differentials by shifting coal from low- to high- price markets

**Freight arbitrage** – Capture differential between index-implicit and real freight rates, eg. by switching from FOB to CIF

**Long-term sourcing** – Enter long-term off-take agreement with smaller producer at favourable price and market its volumes on own account

**Basic trading levers with potential to lift HCCL’s total value**
STRATEGY TRACKING USING STRATEGY MAPS

I. OPTIMISE VALUE OF CURRENT OPERATIONS

- P1.1: Improve operational efficiency
- P1.2: Improve operational effectiveness
- P1.3: XXX XXX XXX

II. CAPTURE VALUE ACROSS VALUE CHAIN

- P2.1: XXX XXX XXX
- P2.2: XXX XXX XXX
- P2.3: XXX XXX XXX

III. DELIVER ON GROWTH PROJECTS

- P3.1: Grow new production volume
- P3.2: Increase pipeline value
- P3.3: XXX XXX XXX

IV – ORGANISATIONAL RESPONSIBILITY AND CAPABILITY

- P4.1: XXX XXX XXX
- P4.2: XXX XXX XXX
- P4.3: XXX XXX XXX
- P4.4: XXX XXX XXX
Agenda

Introduction to Binmak

Turnaround Strategy Steps

Operational Turnaround Strategies

Case Studies

Operational Turnaround Results
Turnaround Strategy Implementation

- **Strategy deliverables**
  - White paper
  - Strategy document
  - Long-term financial plan

- **Refreshing the Strategy**
  - **External Analysis**
    - World & Zimbabwe economic analysis
    - Medium and Long-term coal supply and demand
    - Updated short-medium and long term price line
    - Political, Legal & Regulatory Environment
    - Competitive environment, Suppliers, Buyers
  - **Internal Analysis**
    - Operational Issues, Challenges & opportunities
    - Commercial & Marketing Issues and Opportunities
    - Updated project info
    - Risk management
    - Cultural assessment
  - **Emerging Strategy**
    - Update HCCL strategy incorporating changes in internal environment
    - Derive plan for implementing strategy (KPI’s; Time line; Performance contracts)

- **Key Milestones**
  - White paper
  - Department & HOD Workshops
  - Strategy document and Business plan
  - Long-term financial plan
  - Board Strategy and Risk Workshop
Key Success Factors

- Senior Management Support
- Dedicated Senior BPI Manager Reporting Directly to CEO/MD
- Well resourced, Focussed Teams
- BI & AM Skills Development and Capability Building
- Expert Input, Support and Facilitation
- Medium to long term commitment to transformation
Strategic Pillars

1: Optimising The Value Of Current Operations
- Executing and delivering production as per operational plans and objectives for mining and processing.
- Integrated Business Planning and execution.
- Operational Excellence in Engineering and Physical Asset Management.
- Safe production, Health and Environmental management.

2: Capturing Value Across The Value Chain
- Supply Chain Excellence in procurement strategies, Inventory management, and contracting strategies.
- Commercial Value add through Logistics, Commercial and Marketing excellence.
- Delivering value for our clients and building lasting relationships

3: Delivering On Growth Projects
- Excellence in project delivery and execution to assure the future of the company.
- Exploration, Geology and survey.
- Reserve and Resources replacement strategies.
- Blue sky project value add
- Technological advancement and research.

4: Organisational Capability & Responsibility
- Caring for our people and winning their hearts and minds.
- Caring for the communities in which we operate and delivering our Corporate social responsibilities.
- Effective and engagement with our people.
- Ensuring we have capability to deliver our strategy.
Need to move from 3rd Quartile of cost curve to 1st Quartile

Source: - AME 2015 FOB cost curve
Financial & Management Strategies

- Balance Sheet Restructuring
  - Liquidity & Operating Cashflow

- Organisational Structuring
  - Organising for success
Operational Performance Improvement

- Theory Of Constraints Production Flow
- Rapid Results Implementation
- Physical Asset Management Improvement
Total Tons Produced

Detailed capability and operational stability analysis indicated the confidence of delivering 2017-2021 Budget is 0% without substantial changes to current processes and practices. The analysis indicated that there is a huge potential for upside performance improvement by stabilising the process, reducing variation, eliminating interdependencies and creating predictable and consistent performance.

1. High levels of variation on a day to day basis at overall production implies that substantial potential improvement can be gained by stabilising the process.
2. Key area of opportunity going forward seen in reducing number of days with zero production and narrowing the production range.
3. There is also a potential opportunity in reducing extreme swings in production which currently ranges from zero to over 8,000 tons per day.

Production capability histogram skewed extremely to the left indicating potential for improvement by shifting to the right.

Realistic budget for HCCL that can be achieved with 80% confidence without change in process and practices is 16,214 tons/month and 37,230 tons/month with 50% confidence.

Potential aspiration of 58,948 tons/month could be reached in 6-12 months with process improvements.

<table>
<thead>
<tr>
<th>Daily Tons</th>
<th>2017 Budget</th>
<th>Aug 2015 to Dec 2016 Mean</th>
<th>C80</th>
<th>Confidence</th>
<th>P75</th>
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<tbody>
<tr>
<td>Monthly</td>
<td>100 000</td>
<td>37 230</td>
<td>16 214</td>
<td>0%</td>
<td>58 948</td>
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<tr>
<td>Quarterly</td>
<td>299 178</td>
<td>111 384</td>
<td>46 142</td>
<td>0%</td>
<td>176 358</td>
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<tr>
<td>Annual</td>
<td>1 200 000</td>
<td>446 760</td>
<td>194 562</td>
<td>0%</td>
<td>707 370</td>
</tr>
</tbody>
</table>
Theory Of Constraints Operational Flow Model for Open Cast Mining Operations

SAFETY

Quality

Flowing OUT

Total Subordination to the CORE PROCESS

Simulate - Measure - Improve

Ore Body

Overburden Removal
Exposed Ore

Drill & Blast
Floor Stock

Load & Haul
ROM Buffer

Crushing

Treat
Plant Stock Pile

Out

People

Material

Equipment

Maintenance

Services

In

Flowing

Quality

Product

Slimes
# Constraints (TOC) Analysis and Bottlenecks

## Illustrative Example

### Table: KOLOMELA DAILY WAR ROOM: Leeuwfontein

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<td>On stockpile</td>
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**Notes:**
- **Threshold:** The threshold levels are set to ensure adequate stock levels for smooth operations.
- **Buffer:** Additional buffer stocks are maintained to handle unpredictable variations in demand.
- **Load & Haul:** The load and haul operations are crucial for moving materials efficiently within the site.

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**BINMAK SOLUTIONS**

We Deliver On Our Promise
TOC Production Flow Implementation

Daily Ops War Room
A Business Process with the objective of assessing the client's current asset management maturity against best practices, as well as its asset performance against benchmarks. Recommendations are made about improvement actions to address the main gaps.
AMI Approach

KPA: Asset Care Plans
Element 1

Key performance indicators

Can’t go the distance

Back of the pack

Promising

Best practices

World Class Performance

Practice-Performance Model

Remove barriers to performance
Asset Management Self Assessment

- Maintenance Management Strategy
- ERP Utilisation
- Maintenance Tactics
- Condition Monitoring
- Contractor Management
- Defect Elimination
- Work Planning and Control
- Support Facilities and Tools
- Life Cycle Management
- Shutdown and Outage Management
- Performance Measurement
BP and KPI Maturity

Excellence

Optimising

Preventing

Stabilising

Fire Fighting

1. Strategy Management
2. Maintenance Tactics
3. Condition Monitoring
4. Work Management
5. Defect Elimination
6. Maintenance Facilities
7. Shutdown Management
8. Contractor Management
10. ERP Utilization (Ellipse)
11. Performance Management
AM Maturity Assessment Summary

1. Strategy Management
2. Maintenance Tactics
3. Condition Monitoring
4. Work Management
5. Defect Elimination
6. Maintenance Facilities
7. Shutdown Management
8. Contractor Management
10. ERP Utilisation (Ellipse)
Asset Management Priorities

- **Asset Life Cycle Management (LCM)**
  - Restore critical production fleet capacity
  - Mid-Life interventions for critical equipment
  - Component Management
  - Equipment lifecycle & deployment decisions

- **Set up a reliability department**
  - Appointment of a Reliability Engineer
  - Resourcing of the reliability department with the right skills

- **Organisational development**
  - Resource the Engineering department with the right skills
  - Asset management training and coaching

- **Physical Asset Management Strategy**
  - Formulation and implementation
  - Communication and engagement

- **Physical Asset Register and Financial Asset Register**
  - Cleaning up, Updating, Structuring

- **Criticality Analysis: Equipment, Components and Inventory**

- **Ellipse Implementation and Training**

- **Work planning, scheduling and control**

- **Work management and effective quality control**

- **Maintenance Tactics selection for critical equipment**

- **Defect Elimination**

- **Establish SLAs with Key OEMs**
100 Day Rapid Results Projects

A 100 day programme to kick-start the year long operational turnaround programme. The ultimate aim is to ensure that the right work is done at the right time and the right way by:

- Mobilising & energising teams
- Shifting the focus onto results
- Empowering staff to unlock their full potential.
- Delivering sustainable change.
- Inspiring culture change & Motivation.
- Driving innovation & employee ownership
Rapid Results Roadmap

Management meetings
1-2 weeks

Launch workshop

Implementation progress management

Close and roll-out

Project design

Day 1
Day 50
Day 100

Strategist
Coach
Supporter, Demand-maker, Cheerleader
Strategist

Identify opportunity and project focus
Team selection and approval
Invitation letters
Operation XXX

Winning the Hearts & Minds and Empowering our employees
Results Of Turnaround Strategy On Production

Coal Production Tons 2017
Introduction to Binmak

Turnaround Strategy Steps

Operational Turnaround Strategies

Case Studies

Operational Turnaround Results
**Trucks & Shovels Performance Improvement Project**

**Average Total Tons Handled/day**

- Baseline increased with increase in Fleet

**Focus for 2010:**

- Sustain the current performance of Trucks and Shovels
- Focus on Secondary Equipment to support the Increase in OEE’s and fleet sizes of mining equipment
- Implementation of Tips of Mining now in implementation at Drilling and Blasting (Pilot)
  - Unmanned Equipment despite over compliment of staff
  - Discipline – how should FLM address generic issues
  - Mining Technical Training Program

**Baseline Performance = 275t/day**

**Mining Target for with current fleet and waste aspirations = 320kt/day**

**OEE Improved from 51.1% to 64.8%**

**Total Tons handled increased from 218kt/d to >300kt/d**

*OEE – Overall Equipment Effectiveness – Good OEE = 63%, Great OEE = 72%, Benchmark*
**Drilling & Blasting Performance Improvement**

**Average Meters Drilled/day**

- **Baseline** increased with increase in Fleet

**Focus for 2010:**

- Consolidation of Mining Improvement Projects – Drilling & Blasting pilot section for implementation
  - Unmanned Equipment despite over compliment of staff
  - Discipline – how should FLM address generic issues
  - Operators available to undergo the behavioral workshops
- Block Preparation
- Critical Tasks

**OEE Improved from 39% to 48.1%**

- Total average meters drilled increased from **1598 m/d** to ~ **2350 m/d**

**BI Target = 2550 m/day**

*OEE – Overall Equipment Effectiveness – Good OEE = 50%, Great OEE = 65%, Benchmark*
JIG Plant Performance Improvement Project

JIG Module Run Hours per week

Focus Areas:
Next generation of improvement Projects to specifically increase the Run Hours of the JIG plant to the Target of 20.5/day.
- Stackers & Re-Claimers
- Blockages
- Gates sticking & wearing
- RCA
- PAM Strategy

Run Hours of Jig Plant improved from 17.1 h/d to 18.9 h/d.

To Achieve budget of 12.6 Mt/pa we need to have 19.9 Run hours/day.

ROM Supply and throughput increased from 58.7 tot 61.2 kt/day

To achieve BI Target of 13Mt/pa we need 20.5 run hours/day

JIG product increased from 32.5Kt/d to > 40Kt/day

Initiatives Implemented
- Increase Shutdown interval from 4 to 6 weeks, adding 6 prod. days = 240kt (Changed chemical composition of Secondary Concave Liners)
- Increase Tertiary Crusher & JIG ROM Supply, by addressing screen efficiencies, liner life, secondary crusher settings and ROM Quantity and Quality supply. Q4 2009 produced an additional 103.4kt.
- Improvements on JIG Level sensors in the hutch tank and reducing the vibration on pump pressure sensors reducing the sensors replaced/m from 25 to 1.75.
Implementation of volume growth projects and enhancing fleet efficiencies will reduce unit cost (ZAR Real)

Implementing volume growth projects will result in 9% reduction in unit cost

Enhancing fleet efficiency through AO and phasing out of contractors evident from 2014 will further reduce unit cost by 4%
Asset Optimisation Value Creation

Operating Profit $m Reported From Improvement Projects

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
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<td>SHUTDOWN</td>
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How We Help

- Strategy Review & Implementation
- Business Performance Improvement
- Asset Management Assessments
- Turnaround Strategy Implementation
- Business Performance Improvement Training
- Asset Management Training
- Integrated Planning & Execution
Thank you!