

THE ROLE OF BENCHMARKING AND INDEPENDENT REVIEWS

Neil Cusworth, Don Hunter and Jane Miller

INVESTMENT DECISIONS – GOVERNANCE

The objectives of Independent Peer Reviews

- Assessment of a project/study to defined standards of content, quality and accuracy to aid and assist Study and Project teams
- Advise the investment decision makers of the status of the business case presented and the viability of the recommendations and forecasts provided
- Ensure the Investment Decision makers are able to reach fully informed decisions on the investment, or the status of the project.

INVESTMENT DECISIONS – GOVERNANCE

The objectives of Benchmarking

- Compare the estimates of study forecast performance/quantities costs/schedule for significant differences with actual experiences of similar projects.
- Understand why any differences exist
- Ensure Investment Decision makers are aware of the competitive value of the project, and to give confidence regarding the validity of the forecasts presented.

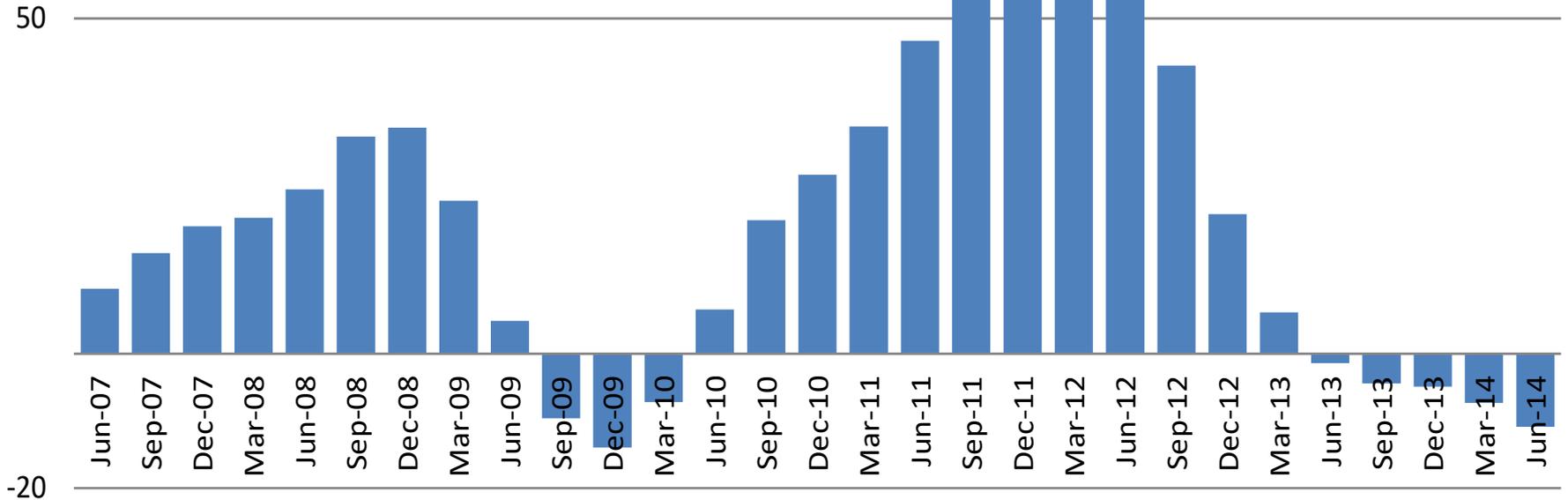
RECENT HISTORY

In the last 10 years the world mining industry has been through a boom-bust-boom-bust building cycle driven by commodity prices and demand.

The sheer scale of development has caused rapid and huge fluctuations in the availability and cost of materials, equipment, construction resources and services for mine development and operation.

The rate of changes has challenged the governance processes of both Benchmarking and Independent Peer Reviews

ANNUAL GROWTH IN CAPITAL EXPENDITURE BY VOLUME



Source: ABS 56225.0, derived

WHAT DID THIS MEAN FOR PROJECT OUTCOMES?

A large proportion of projects in the last 10 years have failed to deliver with the respect to

- Mine performance
- Plant Performance
- Budgets
- Schedules

There were many good projects delivered during this period but there were also a significant number of projects failing to deliver the investment criteria which had been approved.

COULD THIS OUTCOME HAVE BEEN DIFFERENT?

Did good investment governance go out the window when the prevailing market was tonnage at any price?

Could the processes of Independent Peer Reviews or Benchmarking prevent these outcomes?

Can the processes prevent history repeating again in the future?

SOME COMMENTS AND OBSERVATIONS

- We believe the current focus by management consultants and commentators on criteria of costs and schedule can be misleading as these typically rank 6th and 7th in their impacts on investment outcomes
- Commodity prices, exchange rates, head grade, recovery rates and operating costs are of far greater impact on the investments. Hence the importance for new projects to be in the lower quartiles of production costs to protect the downside risks
- In our opinion, input costs such as labour costs and productivity, overheads and contractor margins have been seen to be non-linear to supply and demand over recent years. We have reviewed cases of margins impacting Capex by up to 25%

THE BENCHMARKING PROCESS - *comparing key parameters forecast to actual outcomes on similar projects*

Should include a comparison of

- Relevant previous/current projects of a similar size and type
- Other market competitors actual results
- Other relevant projects in the geographical area

Basis should include

- Technical and operational parameters
- Unit quantities, capital and operating costs
- Project Execution and start up schedule durations
- Project complexity



THE BENCHMARKING PROCESS

Benchmarks must be adjusted to the economic environment of the project timing with respect to

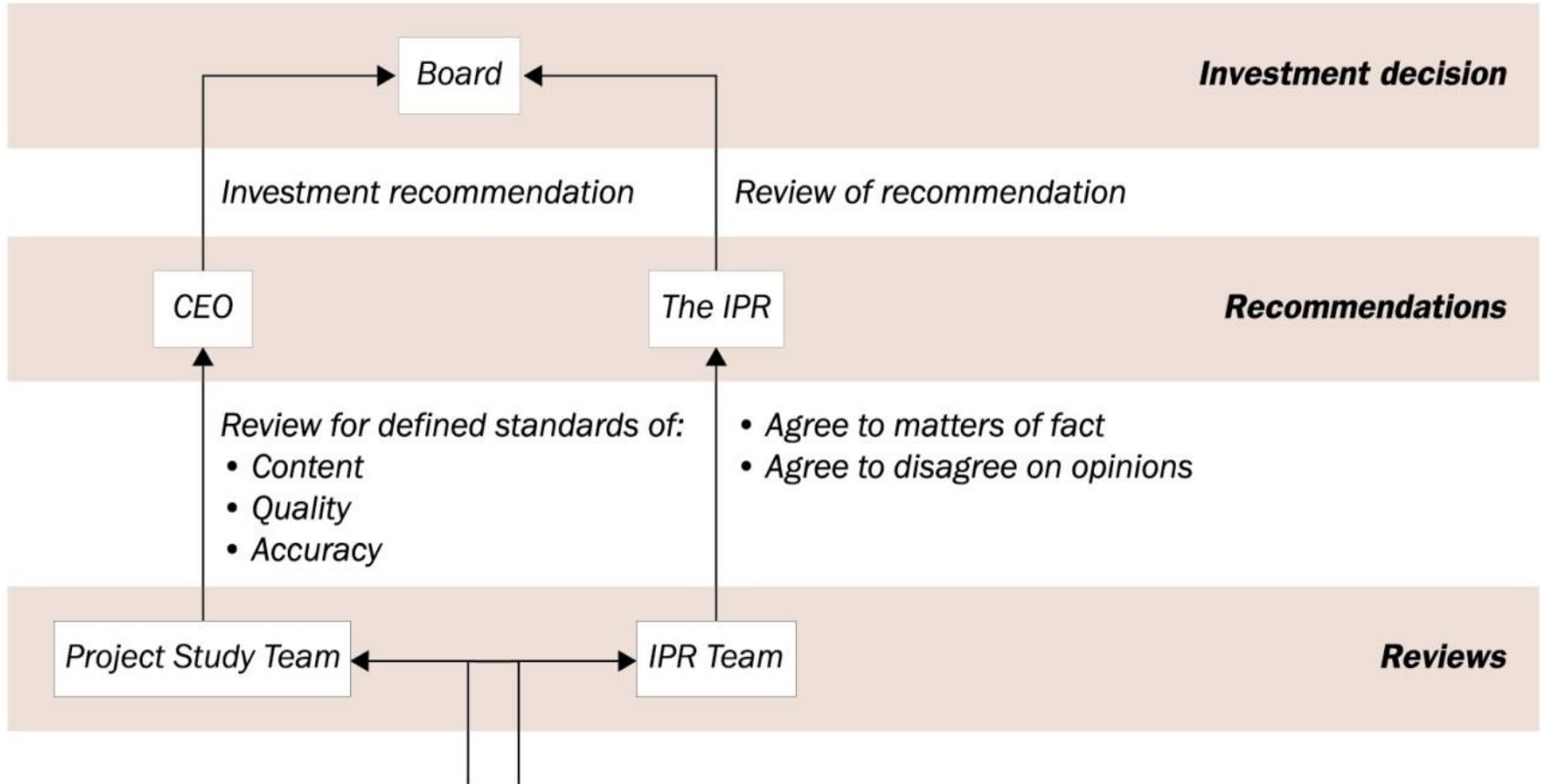
- Inflation forecasts
- Escalation forecasts
- Project size
- Implementation strategies,
- Commercial forms of contract,
- Differences in quantities,
- Location and resource availability,
- Mix of contractor/owner supplied indirect costs and margins.

INDEPENDENT PEER REVIEWS

A process whereby the Board (the Investment Decision Makers) make an investment decision based on the recommendation of the Executive and the Study Manager, which has been independently reviewed by peers.

The Boards do not delegate to the Independent Peer Review the investment decisions. They rely on the Independent Peer Review to have spent sufficient and quality review efforts to identify the positives and the deltas in the investment recommendations being presented in the business case.

Independent Peer Review (IPR) Process



INDEPENDENT PEER REVIEWS

Provide assurance and advice to the Board, the CEO and Executives that:

- The investment recommendation complies with the Company's Capital Investment Policy, business strategy and business plan and that it has achieved/exceeded/fallen short of the relevant defined standards and procedures
- Implementation plans are demonstrably achievable
- Risks are identified and can be adequately managed
- Key issues yet to be resolved are highlighted together with business assumptions and risks
- Project team has been encourage to integrate value adding and risk reduction alternatives identified.

WHAT ARE THE ISSUES WITH BENCHMARKING?

- Current trend in project execution is away from cost plus EPCM contracts to lump sum design and construct or supply and construct contracts.
- Removes transparency and applicability of detailed cost information. The additional contractor margins for risk are very market sensitive.
- Benchmarking needs to recognize the highly volatile responses of the engineering/construction industry to past and future markets.
- Project executed today will be in vastly different economic circumstances to one executed 3 years ago.
- Adjusting data to make it relevant to the economic circumstances of a new project is difficult.

WHAT ARE THE ISSUES WITH INDEPENDENT PEER REVIEWS

- IPRs are not a technical QA/QC check of the project
- The project is not the customer of the IPR – the customer is Board /Company Executive.
- The IPR team must be given sufficient time to review data, interview study/project participants and report
- The study must have achieved the specified level of completion for the IPR to be undertaken.
- IPR outcomes are not “negotiable”
- IPR team members must be Independent
- IPR team members must be peers

OUR SUGGESTIONS FOR IMPROVEMENT - BENCHMARKING

Process should include comparison of:

- Unit bulk quantities and mining/process performance parameters should be on an area/sub area basis
- Major mechanical equipment costs are key indicators
- Construction labour productivity allowances are critical judgements
- Areas for benchmarked projects are useful - total capital cost on a \$/t basis or ore feed rates.
- Contingency and growth allowances are highly subjective benchmarks

OUR SUGGESTIONS FOR IMPROVEMENT - IPRs

- IPR objectives and processes must be clearly stated and explained to all project/study team personnel
- The mandate of the Board or CEO to the IPR must be issued to the IPR team
- Any views formed by the IPR team must be firm and documented prior to any discussion with the project team
- IPR team should request the status of functional QA exercises completed for each project/study discipline/area and never attempt to perform this function
- Schedules for IPR's must be firm and realistic

OUR SUGGESTIONS FOR IMPROVEMENT - IPRs

- All critical areas of project/study must be complete to final draft status and all supporting reports and data available
- The resources must be available to the IPR team to estimate the cost of any non conformances identified
- Matters of Fact and Matters of Opinion must be identified and reconciled between the IPR and the Project/ Study teams.
- Matters of “ Agree to Disagree” should be minimized.
- Budgets for IPR should be held by CEO/CFO not within the project/study budget

CONCLUSIONS

Neither IPRs nor Benchmarking have been infallible in the past in providing reliable assessments of a project's successful outcome.

We consider the benefits of benchmarking in the current market to be now limited – the boom- bust cycle of recent years has significantly limited the availability of relevant benchmarking data. And what do we face next year?

When properly commissioned and undertaken, a quality IPR, supported by rational Benchmarking can provide a valuable assessment of the technical and economic viability of any investment business case recommendation.



Enthalpy