

## **Mining Mavericks – Roundtable Discussion: Execution Strategies by Project Phase**

### Discussion Overview & Debrief of Major Topics/Themes

#### **1.0 Introduction**

This month's panel of Mining Mavericks convened to discuss the work effort required by project phase, and critical decision points that impact the overall value of a project.

Whether in regard to early phases of the project (exploration, concept, and pre-feasibility), or later phases (feasibility, execution and turn-over), the Mavericks agree that the right resources need to be engaged in the appropriate capacities in order to ensure that the overall value of a project to the business is being optimized.

We kicked off the conversation by sharing the results of a recent survey, wherein the question was presented: which stage transition of a project is the most costly? The results which came back and were presented to the Mavericks showed that the Feasibility-to-Execution gate was voted as the most critical.

Some of the Mavericks came back and disagreed with this, specifically putting a higher degree of importance on earlier gates (Concept-to-Pre-feasibility or Pre-feasibility-to-Feasibility).

Let's take a closer look as to why these transitional phases of the project are so critical, what are some of the challenges which projects face at various stages, and what are some of the solutions the Mavericks have experienced and implemented to overcome these challenges as the project matures.

#### **2.0 Industry Challenges**

Let's get major issues out of the way so we can share the meat of the conversation – the solutions. The Mavericks have been working in the industry long enough to identify potential pitfalls as they pertain to advancing a project from one phase to the next. What did they have to say?

One of the first problems identified, which many projects suffer the consequences of, is not having an alignment on what the real business objectives are. Note the business objectives may not always align to the project objectives. Partnerships in the industry may convolute this even further – what if a steering committee is split between the objectives of their respective businesses, and not working to the same project goals?

Another problem commonly encountered is the lack of collaboration during early stages and during transitions of the project from one stage to the next. Geologists have an obligation to book reserves, mining executives are focused on selling projects to the shareholders, and study managers and project managers often have different objectives and goals as they pertain to their portion of the overall project.

Recent industry benchmarking has shown that projects experience an average capital cost overrun of 30-40% when changing from one study contractor to a different execution contractor. As it relates to the topic at-hand, what the Mavericks derived is that the continuity from one phase to the next was broken in these cases, and those projects suffered as a result of the discontinuity between study and execution.

So how do we fix it? For the Mavericks, the solution is multi-faceted: clearly defined (and aligned) business objectives, seamless transitions from one phase of the project to the next, and project personnel with the experience and a collaborative approach to carry the project from concept through execution.

Further to this, the Mavericks have experienced positive results by involving project personnel in the business development arena, and utilizing value assurance personnel to provide assistance (rather than oversight) to the project team and the stage-gate process itself.

Easier said than done, right? ... Only with that attitude

### **3.0 Front-End Loading**

When considering the net asset value of a project, the Mavericks seemed to agree the earlier phases of the project are more impactful to the outcome, specifically targeting the transition from pre-feasibility to feasibility as critical to optimizing the scope and selecting the right options from a comprehensive scenario analysis.

To some of the Mavericks, the industry as a whole is getting worse at effectively front-end loading projects. To others, the solutions have already been identified and implemented to one varying degree or another, and the recipe for success is available for any business willing to re-create those results-based methods.

Some of the Mavericks believe that many projects are advanced in the industry, for one reason or another, when they should be eliminated from the business plan altogether. They also believe that the initial concepts established during pre-feasibility are rarely questioned as the engineering advances; projects are not recycled back through earlier stages and/or studies to verify all aspects of the project are aligning to the overall business objectives. Both of these problems commonly result from either decision makers not having all of the information necessary to properly assess the conditions, or decision makers having a narrow field of objective, which may or may not always be in-line with business and/or project objectives.

Both of these problems, it was discussed, can be averted by engaging a multi-functional and robust team during those early stages, so all aspects of the project (scenario analysis and option selection, business objective alignment, execution team inputs) can be harmonized, and the decision-making process complete.

Experienced personnel working together in a collaborative environment where each discipline's needs are being addressed through each phase of the project is the solution. Having execution personnel who understand study work, or study personnel who understand execution, is the gold standard.

One Maverick recalled the success of a specific project, and attributed much of that success to the early business decision to have key members of the execution team working hand-in-hand with the study team during early phases of the project, and the study manager continuing on for a good portion of the execution work.

By allowing this overlap (although committing significant resources from the business), the teams were able to collaborate end-to-end, ensure continuous alignment of business and project objectives, and carry over invaluable experience and expertise throughout all phases of the project.

When all core functions of the business have input to the project scope, schedule and budget, then the opportunity for flipping a "surprise" over the fence is eliminated.

One of the most critical components of a project is getting permits approved on-time and accurate to the single option being advanced for the project (assuming that single option selected represents the best value scenario for the project). If the scope is not well defined by cross-functional teams, if the wrong concepts are carried forward beyond case analysis, it becomes very challenging, costly, and time-consuming to change this once all the functions have been given an opportunity to weigh in (oftentimes after the applications have already been submitted).

In the experience of the Mavericks, it is far more valuable to engage qualified resources early, and allow for thoughtful collaboration and inputs from all disciplines rather than working in silos, or waiting until critical decisions are already written in stone (or on a permit) before bringing in those personnel responsible for implementation.

### **4.0 People, Collaboration, and Systems**

Framing project opportunities is critical. Selecting the right options for the scope is critical. Getting permits in place for the single option is critical. Each of these challenges are best overcome when qualified project personnel are

working in a collaborative environment to meet the same objectives as defined for the business and the project. Only then can the decision-making process to be robust and complete.

Two concepts promoted by the Mavericks, as mentioned briefly above, are to have a deliberate value assurance team acting as a resource to the project team, and involving key project personnel in business development functions, specifically the decision process to advance/not advance/recycle projects.

Dedicated value assurance teams can provide experience and expertise to the study team and the execution team. Perhaps of more value, they can provide invaluable assistance to project planning efforts, as well as ensuring continuity and knowledge transfer as a project advances from study to execution.

Maximizing the value for any project opportunity is challenging. Defining the scope of a project accurately and completely is challenging. Without the right resources collaborating during the front-end planning phases of the project, it is much easier to get this scoping component wrong than it is to get it right.

New technologies, the emphasis on environment and community, and an ever-changing global market are just a few variables that make project planning a dynamic exercise, one where no one individual could possibly have all the solutions and answers available without the contribution of a multi-discipline team at any given stage.

Throughout all of the conversations with the Mavericks, it is no longer a surprise to hear the emphasis placed on people, collaboration and systems. I don't recall a time when this focus was as highlighted and unanimous as when discussing project planning from one phase to the next, and value that can be lost by not doing so.

Without the inputs from all disciplines, it is difficult to make complete, fact-based decisions on whether or not to advance the project and, more importantly, how to advance it while planning for the next phase.

## **5.0 Execution Planning**

It is not disputed that project personnel are critical to the business when it comes to planning and executing capital projects. However, each business and each company utilize these resources in different capacities and at different phases. As stated, the Mavericks believe that project personnel should have a major role in business development, and cross-functional teams shall be engaged and aligned from initial concept right through to execution.

An example of effective planning was given of a project that spent three months during the pre-feasibility stage performing a detailed GAP analysis with both the owner and contractor personnel, while developing a detailed schedule and budget for the feasibility stage, before allowing that project to advance. The Mavericks seemed to agree that taking the time in this deliberate front-end effort, though causing a slow-down to kicking off the next phase, was the right thing to do to ensure that all options were considered and the right decisions were being made before advancing with a single scope. Additionally, all project participants had a thorough understanding of the scope from the day that it advanced to feasibility, and all ambiguity and lacking detail was eliminated to ensure the alignment of the key scope components going forward. They were on the same page, and they had a plan for the next phase which everybody not only understood, but also contributed and bought in to.

Another concept that the Mavericks seemed to like very well and have had great experience with is involving the execution manager (project manager / project director) heavily in the study phase, and carrying over study personnel (study manager or otherwise) into the execution phase.

The first advantage here, by involving the execution manager or execution team in the study phase, is that it allows those responsible for implementation to say whether or not the decisions made during front-end planning will work, and have input to optimize those critical decisions. This is the right time to do this, not at the onset of execution.

Additionally, by carrying over study personnel into execution, this ensures that the transition is seamless, and critical information gathered during early phases as part of the scoping effort are carried over and understood as the project transitions into the execution phase. There is no “knowledge gap”, and the learning curve is flattened greatly.

## **6.0 Conclusion**

While the industry seems to be trending more in the direction of “ready, fire, aim” being the preferred planning method, there are examples of success where we can draw down key take-aways.

There is no disputing that early stages of the project are critical to the success of everything that follows. By engaging qualified resources in every discipline that will be impacted, and allowing collaboration and input from each of these functional areas, we allow two things to happen.

First, the decision-making process (and all efforts leading up to it) are robust and complete; all of the information necessary to make a decision is investigated and understood going into the review.

Additionally, both the scope of work, as well as business and project objectives, are aligned and understood by all, including those responsible for executing the project in later stages.

People make projects.

The Mavericks believe that positive experiences and successful project outcomes are attributed greatly to the alignment of goals and objectives amongst project sponsors, comprehensive project teams being involved throughout the scoping and planning process, and value assurance personnel facilitating the end-to-end process.

By engaging experienced study and execution personnel, allowing them the opportunity to collaborate during critical stages of the project, and supporting them with systems and resources to thoroughly investigate and define their most valuable scenarios, we are investing in the success of the later stages of these projects and operations.

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*If you're a progressive thinker and mining leader and you want to make a difference in our industry, connect with me. I would love the opportunity to speak with you and get your personal experience and perspective as well as share the thoughts, connections and ideas of other leaders in the industry!*

Many thanks, and much appreciated.

Jason Fearnow, Founder & CEO – Prime Contract Solutions