

What makes a good consultant?

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Earlier this year I was asked several questions about my opinion on “what makes a good consultant?” Of course asked another way, the question could have been “what makes a good consultant great?”

The questions were asked in the context of consulting within the so-called “life-cycle” of mining projects and the following thoughts have been based on my responses at the time.

What is involved in life cycle consulting for the mining industry?

Mine life cycle consulting probably means different things to different people depending on their position as developers, operators or service providers, and also depending on the maturity of their project, or in the case of service providers, the range of services they provide.

As consultants, when our focus is on mineral resource and ore reserve modelling and reporting, then we tend to link the effectiveness and reliability or accuracy of these processes and outcomes through the mine reconciliation cycle, from resource to grade control to run-of-mine and then product measures. However, underlying the estimation and reconciliation process is the practicality of translating estimates and mine plans into daily, weekly and monthly production and the effective utilisation of staff and equipment compared to the plan.

The review, audit, improvement and optimisation of procedures and processes to improve outcomes is well within the realm of experienced technical consultants who tend to have broad experience, and bring a level of independence, or, if you prefer, objectivity, to the process, which may be lacking from internal resources. These consulting activities cover a range of disciplines or skills, such as geology (exploration, resource estimation, grade control), geotechnical engineering, mining engineering (mine planning, scheduling, ore reserve estimation, ore and waste management, drill and blast, production planning and operation), process engineering, environmental management and project management and control.

In addition to these technical activities, the areas of safety, human resource management, finance and cost control, economic modelling, product marketing, et cetera, are fundamental aspects of the mining life cycle.

The various activities are carried out to different levels of detail according to the requirement of a mine through its life cycle stages of exploration, assessment and funding, development, operation, optimisation and closure.

Why is life cycle consulting important?

It should be clear from the above discussion that mining is a complex pursuit that relies on the successful integration of a variety of activities and disciplines over time. Whether a consultant is involved in only one specialised aspect or many, these inputs are part of a bigger picture: namely, the whole-of-mine or mine life cycle. Like any project or activity, the outcome is dependent on each and every building block and is only as successful or strong as the weakest link in the chain. For this reason, being aware of, and considering how the consulting input fits into the mine life cycle, and appreciating the importance of each step, is the sign of a successful consultant.

Who becomes a consultant?

Interestingly, only a small percentage of technically capable professionals gravitate towards consulting and in turn become good consultants, and it tends to be those who dig a little deeper into the why, how, who, where and when things are done; those who put in the extra time to research, understand, model and improve their capabilities and/or work practices; and those who find themselves in technical services functions that are more than operational. These people may be extroverts and like to share their knowledge and network with others, or may be more introverted and prefer to simply get on with the job; but either way, both characters can make good consultants.

Can you share an anecdote on the value a consultant can bring to a mine project?

I was once engaged to understand, and if possible improve, the quality and consistency of the run of mine ore on a mine where the geology discipline was not highly regarded. After several months of investigation, sufficient data was collected and analysed to implement a grade control program with buy-in from the production team. The solution provided relevant data and information to proactively control dilution to improve run-of-mine qualities as well as re-negotiate client supply contracts. This ultimately saved the operation several millions of dollars in penalty costs that otherwise would have been incurred (more detail on this work and the solution can be found in Noppe, 2003).

The then general manager of the mine still asks, after many years, how I got to the final outcome: a very different attitude from the one I faced on day one of the engagement! I did not know the answers at the start of the process, but I did recognise that we did not know enough at the time to make any informed judgement on potential solutions. Also, as a young, well-trained scientist/geologist, I did know how to design and conduct the investigation to help provide the data and information to help solve the problem. I also recognised the need to ask questions, and discuss and seek advice from my peers and mentors in this pursuit.

Any final advice for aspiring consultants?

As a consultant, you can't ever stop questioning and learning. You never know it all, and you don't necessarily know more about some details than your client, so don't forget to learn how to listen, seek and encourage peer review and the benefit from the mentoring this provides. After this, it is the way you learn to analyse data, produce results and

provide advice to improve your client's process, project or mine, or solve their problem that rounds you off as a consultant.

Noppe, M., 2003. The measurement and control of dilution in an underground coal operation. Proceedings of the 5th International Mining Geology Conference, November 17-19, 2003, Bendigo, pp: 189-195.