

The two success factors of exploration - Number #2

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STRICTLY Boardroom is still on the search for successful exploration management recipes.

This week, former Manchester United striker, and now manager of the club, Ole Gunnar Solskjaer, revealed the secret management tips he gives his players to become better strikers:

1. Know what you're going to do;
2. Be able to do it;
3. Then get into positions¹.

Simple really: It's a wonder we're not all scoring the injury-time winning goal in the 1999 Champions League Final for the Red Devils as Solskjaer famously did².

Less complex than for football strikers, mineral explorers need only do two things 'right' in order to succeed in their quest. That is, explorers should aim to '**do the right thing**'¹ (or '**know what you're going to do**'), while in tandem also '**doing things right**' ('**be able to do it**').³

Last week⁴ we discussed the former objective of '**doing the right things**' in mineral exploration - whereas this week we move on to consider what is meant by '**doing things right**'.

Here is our working copy of the exploration management 'to do list'

1. 'Fit-for-purpose' non-invasive science.

To say that explorers should deploy 'best practice' screening surveys over regional projects would be motherhood. After all, no company would set out to conduct its exploration activities to a standard of 'worst practice' - although cynics, particularly disgruntled investors in struggling listed explorers, might question such an assertion on our part.

With the aim to rise above motherhood statements, we have rescripted the 'best practice' management mantra as deploying a 'fit-for-purpose' approach to all pre-drilling exploration activities. Why? Inevitably there are cost-benefit considerations to take into account in all exploration activity given budgetary constraints.

So, when it comes to instigating non-invasive exploration to generate targets and screen regional ground, it is not always necessary to commission the highest possible resolution aeromagnetic survey as one simple example. What is needed of course are surveys of sufficiently high-resolution to illuminate the mineralisation targets, taking into account the ore deposit style, discovery analogues, the cover-sequence and regolith conditions, target-depth and so forth. The same logic applies to geochemistry as it does to geophysics - where selection of sample spacing, sample media - and of the assay suite are all critical.

The nub of the 'fit-for-purpose' challenge of 'doing things right' is to be comprehensive in survey effectiveness, whilst remaining cost-efficient.

2. Best practice 'commercial exploration'

Leaving the technical side - and turning instead to the commercial side of the exploration equation, we stand by a call for 'excellence' in practices here - not least in commercial arrangements between major mining companies and junior explorers when forming joint ventures.

We believe that 'excellence' in achieving 'commercial best-practice' in a joint venture is synonymous with a truly 'fit-for-purpose' approach. Critically, fit-for-purpose applies to not just one of the joint venturers but to both.

That is, fit-for-purpose joint ventures should aim to take into account the differing objectives of the parties involved. For example, a large miner requires a large high-value discovery - whereas a junior explorer only requires a modest discovery to be meaningful to the company's value. To state the obvious, a large company is also likely to have far greater financial firepower than a junior, so a well-scripted joint venture will recognise these contrasts between co-venturers.

Balancing the requirements of both parties through a win-win joint venture is far from straightforward - requiring careful crafting. A 'one size fits all' perspective would be nice of course - but seldom are the commercial situations and necessities the same from one deal to the next.

As such, 'standard' joint venture terms are unlikely to be appropriate for both parties repeatedly. Indeed, in your scribe's experience, any party offering their 'standard JV terms' inevitably means that the proposed commercial arrangements that are clearly favourable to the party that is making their so-called 'standard' offer!

All too often unfortunately, we continue to see joint venture structures that are effectively doomed to failure from the outset announced. 'Win-lose' deals rather than 'win-win' remain commonplace in our industry.

What do we mean exactly? As one example, a junior company should never sign a joint venture where there is every likelihood of them being 'spent out' of the project by a major prior to discovery. As a thumb-suck, we would observe that more than half the 'standard' joint ventures that operate across our industry fall into this category. There is clear room for improvement here.

3. Continuous review - but of new facts;

Concepts such as 'confirmation-bias' and 'commitment-bias' do not, at least to our knowledge, form an integral part of typical University geoscience curricula. In terms of human decision-making however, both concepts present significant pitfalls to explorers.

A confirmation-bias reflects human tendency to search for, interpret, favour, and recall information in a way that confirms one's pre-existing beliefs or hypotheses⁵. Put simply, those explorers who fall guilty to confirmation-bias unconsciously lose their scientific objectivity. In contrast, a commitment-bias reflects a human behaviour pattern in which an individual or group facing increasingly negative outcomes from a decision, action, or investment nevertheless continues the behaviour instead of altering course⁶. Colloquially, commitment-bias in exploration is the trap that is referred to as 'falling in love' with your projects.

The famous quote attributed to John Maynard Keynes⁷ is apt here: "When the facts change, I change my mind. What do you do Sir?"

There is, perhaps a financial market influence on 'escalation of commitment' in that financiers often like to see simple exploration company structures that are aligned around a principal project and clear commodity theme, such as "gold in Turkey" or "rare earths in Mongolia", from which their investors can then build a diversified portfolio of risk exposure.

The problem for the exploration company is that of 'becoming your project' where your very corporate identity becomes tied to the project - and critically not to the company's exploration and development skills.

A dire potential consequence is that the company enters a vicious cycle of pushing a project in order to stay alive, then yet further pushing the same project to stay alive, and so on. This is the practical realisation of the concept of escalation commitment - and is (unfortunately) rife within our industry.

Repeated independent expert reviews from parties outside the immediate exploration team can be a strong antidote to cognitive bias within the team - and forms a key part of 'doing things right' in exploration.

4. Drilling - a lot - using each hole as a vector

Successive studies over the decades have suggested that the most successful explorers drill more holes than do their peers⁸. We agree. Too often we have seen exploration teams ponder over targets repeatedly - proposing numerous untested theories as to where stronger mineralisation may be present - but still in the absence of new drilling information.

The humble drill-rig - often labelled the 'truth machine' by explorers - needs to be deployed - often - when insights from existing geological information have been studied to exhaustion. Some exploration teams do this better than others.

The opposite error-type is also prevalent. That is, some explorers 'over-drill' their prospects - in the process simply building a costly inventory of 'sub-economic resources' while burning precious exploration funds. This practice, of which your scribe has on some occasions been guilty, formed part of the inspiration for our fictitious explorer "Sub-Economic Resources" (ASX Code SUE).

5. Portfolio focus - while still churning ground

Avoiding commitment-bias implies that some exploration projects will need to be 'churned', meaning dropped from the portfolio and replaced with other opportunities. Dropping ground 'well' is as important as picking up the right ground.

In our observations, smaller explorers are more prone to die more from 'indigestion' - the curse of too many exploration projects and activity spread too thinly - rather than from 'starvation' - meaning the absence of suitable exploration opportunities.

That being said, the individual and group psychology of being able to 'drop' or 'give up' on projects, along with the earlier-stage requirement of being able to say 'no' to an apparent 'opportunity' remain under-studied aspects of exploration (and general business) management. There is far more work to do in understanding this dimension of exploration management.

6. Best practice team management - yes, culture!

We close our 'to do' list with the people-side of exploration. Much has been written on the soft-skills of creating and managing an effective team at the generic level⁹. All of this management literature has application to exploration practice.

Three snippets are worth highlighting here:

Firstly, that dissent and challenge within the team are to be encouraged not quelled.

Secondly that effective multidisciplinary teams are usually small - typically comprising less than six key personnel, not a team that runs into double-digits in number.

Finally, that leadership should be recognised as situational. So, in some environments the geochemist will lead - while in others the geophysicist will come to the fore.

As for the exploration manager - if a high-achieving team has been established, the trick is to lead like Gandhi - "There goes my people. I must follow them, for I am their leader."¹⁰

That's it for this week: Have we risen above 'motherhood' counsel? As always, we'll continue to work on it!

Good Hunting.

Allan Trench is MBA Director and Professor at the UWA Business School, a non-executive director of several ASX-listed minerals companies - and the Perth representative for CRU Consulting, a division of independent metals and mining advisory CRU Group (allan.trench@crugroup.com).

John Sykes is undertaking a multidisciplinary doctorate at the Centre for Exploration

Targeting, UWA and a sessional lecturer on the MBA programme at UWA Business School. He is also a strategist for MinEx Consulting and a director of Greenfields Research, both consultancies specialising in the analysis of mining and exploration across the base, precious and specialty metals sectors. (john.sykes@greenfieldsresearch.com).

¹ - Railston, S., 2019, Ole Gunnar Solskjaer reveals goalscoring tips he gave to Manchester United attackers Lukaku, Rashford and Martial, Manchester Evening News, 28 January: <https://www.manchestereveningnews.co.uk/sport/football/football-news/ole-gunnar-solskjaer-manchester-united-15732822>

² - https://en.wikipedia.org/wiki/1999_UEFA_Champions_League_Final

³ - Solskjaer's third point of 'getting into positions' aligns with Michael Porter's concept of 'positional strategy', whereby strategy is selecting the right position in the market (or on the football field) and in an exploration context would be positioning yourself 'on the right ground' which includes considerations of ground's prospectivity, but also market (commodity choice, financial market interests, etc.,) and business (political risk, infrastructure, etc.,) factors. We feel 'positioning' is adequately covered in the sub-components of our 'two factors'.

⁴ - <https://www.miningnews.net/strictly-boardroom/opinion/1355184/the-two-success-factors-of-exploration---number-1>

⁵ - https://en.wikipedia.org/wiki/Confirmation_bias

⁶ - https://en.wikipedia.org/wiki/Escalation_of_commitment

⁷ - Note however that there is no formal record of Keynes actually making the statement. E.g. <https://quoteinvestigator.com/2011/07/22/keynes-change-mind/>

⁸ - The famed McKinsey 1975 study of the exploration functions of 13 mining houses at that time is first credited with this factual finding.

⁹ - We draw attention to the works of the late Harvard Professor Richard Hackman in respect of team culture and performance.

¹⁰ - <https://www.goodreads.com/quotes/84976-there-goes-my-people-i-must-follow-them-for-i>