

Taking the lead in the future of workforce and digitisation

BY HENDRIK LOURENS AND GARY WONG

During the Age of Technology that began in the late 19th century, investors focused on companies building new factories and assembly plants. Huge returns were achieved by applying the principles of Scientific Management.

What followed was Systems Thinking coupled with breakthrough advances in computer hardware and software. Metal and mining investors during the Age of Information saw how process improvements embedded in enterprise resource planning (ERP) systems, such as SAP and Oracle, resulted in efficiency gains; however, over time these investments have created unintended negative consequences. The current COVID-19 pandemic has exposed how brittle global supply chains have become by following a 'faster, better, cheaper' directive. More importantly, the crisis has shown how vulnerable the mining industry is when people are not cared for. Many companies proudly state 'people are our greatest asset'. Is this the truth or mere platitudes? Let's examine the facts.

In September 2019, E&Y published its yearly survey on issues that occupy the minds of mining executives. Future of the workforce and digitisation made the top three. These themes were present also at the 2019 Future of Mining Conference in Sydney. Mining is facing increased pressure to deliver on attracting talent to an unfashionable industry and competing for high-tech skills, improving safety and

increasing workforce diversity, while coping with falling grades and a demand for improving productivity.

In 2019, only 24 university students were studying mining engineering in all of Australia. Turnover of skilled resources are substantial, and anecdotal evidence suggests that prospective engineers would instead work for high-tech and software companies rather than an industry considered to be unexciting, overly hierarchical, and providing limited opportunity to make a difference.

Corporate Australian (and rest of the world) mining culture displays an aversion to taking risks that can impact cash flow. Many Tier 1 consultants have identified culture as a major stumbling block in technological innovation.

The bigger question is, why does the accounting world classify people as expenses and not assets? Why are people being treated as liabilities? As witnessed in the current crisis, companies just get rid of people to increase cash flow. The evidence is overwhelming, and compared to technology, people have been given second-tier status in terms of investment and become top priority when expending.



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THE AGE OF ECOLOGY - INVESTING IN PEOPLE

The pandemic has clearly demonstrated its direct impact on the bottom line. Without naming names, there are senior mining leaders who believe it's best to comply with COVID-19 protocols and wait it out until the 'old normal' returns. Think about the venerable fable of the frog sitting in the pot of water. As the heat is turned up, the frog reacts by adjusting to the temperature rise. It's a slow yet comfortable death. As the talent pool shrinks with no replenishment, mining operations will suffer. Not investing in people won't lead to a sudden crash; it will also be a slow but comfortable death.

We are now entering the Age of Ecology, which carries forward the positive learnings of the Technology and Information Ages, but leaves behind the troubling paradigms that treated people merely as cogs of a machine. When looking at your next investment, we offer three questions to ask senior leaders (especially if you think they might be frogs):

- What is your 'people' philosophy?
- What is your long-term strategy to build and retain human capacity and capability?
- How are you leveraging the collective wisdom of your existing workforce?

1. HUMANS ENABLED BY TECHNOLOGY, NOT THE OTHER WAY AROUND

In the 20th century, mining relied on technology and linear processes to deliver results. Accident-prone people were a necessary hazard to keep the machines running. Bernard Marr in *Forbes* magazine reported that 25 per cent of technology projects fail outright; 20–25 per cent don't show any return on investment, and 50 per cent need massive reworking by the time they're finished. Idealistic 'work as imagined'

promises fail the smell test. It took the ingenuity of people to realise what technology success there was to salvage. In today's complex reality, the failure rate conceivably will be higher due to rising unpredictability and uncertainty.

In the past, the leader's job was to command and control a top-down change program. Today calls for cultivating a change platform – one that enables anyone to initiate an idea, recruit confederates, explore solutions and launch experiments – all monitored by experiences captured 24/7 as stories. Digitisation should be an initiative in the change platform, not running the show.

2. MINING AS AN ATTRACTIVE PLACE TO THRIVE

There is a serendipitous opportunity to rewrite the script that mining is a boring, uninspiring profession. The technical challenges posed by automation and digitisation means being on the leading edge and even pioneering innovative ideas to prove their worth.

During the pandemic, is the company encouraging professionals and tradespeople to keep externally collaborating and thus be industry ambassadors? Or are they told to hunker down to reduce cash flow? With a little bit of investment in people's careers, how might the company stories being told on the informal networks be more favourable, such as, 'We love working here. It's where the action is'.

3. PEOPLE AS HUMAN SENSORS

Mining operations dashboards are replete with mechanical and electrical sensing devices. Gauges alert when a machine is overloaded, or if a pump is not working properly. Managing normal variability is key to maintain stability. Good but not good enough. What's missing? Human sensors.



Neuroscience research tells us that our brains were built not to logically store and retrieve information like a computer. They are designed to be pattern recognisers. We have the unique ability to quickly detect early patterns of pending danger often told as ‘I’ve got a bad feeling about this’ stories. We can also make sense of novel patterns and recognise solutions as ‘I think there’s a better way to do this’.

The real power is harnessing the collective wisdom of the total workforce. This is what we do with our Productivity Platform approach. In more than 95 interventions, our methodology has achieved output increases by an average of 20 per cent, and has reduced operating costs by 10–30 per cent, typically within 3–5 months. Only humans can discover the patterns leading to these productivity breakthroughs. The Productivity Platform engages their untapped sense-making prowess. It creates protective capacity, which buffers operations against the inevitable setbacks involved in innovation efforts. It enables employee-led continuous improvement by highlighting the areas where digitisation and automation projects will deliver significant results in the shortest time, thereby maintaining momentum. In this manner, it unshackles employees and managers so that they are able to contribute their best ideas and energy, making mining careers exciting.

CONCLUSION

To readers who are prospective investors, the smart choice is funding companies who know how to deal with complexity and uncertainty. It’s not difficult to pick them out. They have, or are developing, a change platform to stabilise operations and strengthen robustness. Digitisation and other agility initiatives to

build resilience can then be properly sequenced in the change portfolio to shape the ‘new normal’.

To readers who are senior leaders interacting with investors and shareholders, what strategies do you have in place in respect of the three questions posed, and, if so, are they effective? **ARRI**

About the authors

Hendrik Lourens is a Sydney-based management consultant who has worked with Aurizon, Qantas, John Holland, CPB, Downer and Anglo American. He has qualifications in Physics and Polymer Science, as well as an MBA. Hendrik has worked at Director level in manufacturing businesses and for a number of Tier 1 companies. On completing ‘Managing the Theory of Constraints Way’ in 2010, Hendrik became the first practitioner to pass all exams involved in the theory of constraints (TOC) Body of Knowledge within one year. His focus is on applying Complexity Science and Theory of Constraints to deliver breakthrough results. He has turned around manufacturers, and improved the safety and productivity of mining and construction companies, and has been published in various journals on efficiency and innovation.

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