WHITEPAPER

Holistic Business Optimization v. The Silo Mentality

From the talk on cultural change in mining by Ash Bosworth of Pulse at IMARC 2019

Do big fish still eat small fish?

Klaus Schwab, Founder and Executive Chair of the World Economic Forum, said that in the new world it's not the big fish that eats the small fish but rather the fast fish that eats the slow fish.

We're saying this is very much the case in the evolution of the mining industry at the present time. There are mining companies willing to get onto the digital idea – that are open to allowing software vendors such as Pulse and others to assist with their endeavours – and these companies are leaving the others behind.

The old school

The others we can probably refer to as the old school – the big fish. These are companies that are resisting digital transformation for any number of reasons. They find themselves procrastinating about moving ahead and keeping up with the more agile companies. In our experience that's often due to embedded staff members who've been in their positions for a long time. Typically, there's a long chain of command. People can fear offending their boss or spending money they're not supposed to spend, and they've decided for themselves that they probably can't do anything managerially. As a result, people who are lower down in their operational chain go looking for silos of applications to help them with aspects of their jobs. They'll usually start with some Excel spreadsheets and access databases. They'll engage with a small, single-person computer system provider to build something bespoke. What comes with this approach is obviously a lot of risk, especially if the tool is built inhouse. One individual or maybe two are key to the operation of this bespoke tool and when they move on, the company finds itself in some trouble.

The new school

Opposite to this scenario, you've got the new-school guys – typically these are start-ups. Start-ups don't have the time nor the staff to enter data into multiple systems, nor to build a daily report to give management. The fast fish want to press that button and have that report appear immediately in people's inboxes, or get published on a website, or become available on the internet. With older companies, indeed with a lot of our clients, we have seen where management didn't realise that the risk of a bespoke-developed or inhouse solution has been there for a while and it's taken an

asteroid moment – like when something hits the Earth and all the dinosaurs are gone – or a takeover, or a change in management for this realization and shift to occur.

Reasons for resistance

So why, why is there resistance to change? There are probably four main reasons for resistance in our experience. The first one is **management support** – like where there is no support from the management to get things happening; or there is a personal interest in maintaining the status quo because to continue managing with something that has been managed for years feels easier than embracing change. Some managers may even try to restrain any insiders or outsiders from breaking through and making positive changes happen for the company.

The second is **protectionism**. There are the types of people who have built a particular tool for themselves – it could be a spreadsheet or access database or similar – and they consider, with some personal pride and ego attachment, that what they've built for themselves is the absolute best thing you could possibly have to do the job it was designed for. These people may also want to protect their own role in the organization. They want to be given the personal credit when monthly reports are coming out on time and it's all due to 'Tom' or whoever it is. But how often does this individual realise there's a massive risk to the company if they happen to get hit by a bus or go on leave? We couldn't count the number of cases where someone like this has left an organization and we've been called-in to implement a solution within a couple of weeks and ensure that reports are maintained – it happens *that often*.

The third reason is being **stuck in a rut** – how people can easily get used to doing things one particular way, over a long period of time, and they subsequently lock themselves into a repetitive cycle.

And of course, the last one is all about **budgeting**. People will consider there's no budget for change – only because they don't properly realize there's a massive return on investment if they spend the time and effort to implement an integrated solution, rather than having all these silos around – bits of software and tools patched together. We recognise this at Pulse, the need for rapid return on investment, and that's why we offer our fully integrated solution as a subscription model only, so there's no capital upfront cost, and I'll suggest that most software vendors are heading this way, if they're not there already.

The promise of digital transformation

So, what's the benefit – the promise – of having a truly integrated solution?

You've got a single version of truth. Sure, the data might originate from multiple sources. There are a lot of places where data originates within a mining operation – all the machines; SCADA systems; the environmental apps that exist; payroll; swipe cards to get in and out of areas in the mine site… but if all this data ends up in one place, you've got a single version of truth. Sure, you can flow from there into

analytics or other things, but you can always refer to the single, totally integrated system as being *the truth*.

Just quickly, here are some real-world numbers from some of our customers.

The very first implementation where we integrated data coming from machines through our operations system, and eventually up into our analytics in real-time, meant that this miner quickly made more than $14M in savings every year. This is from just one KPI that we were producing for them from data that came directly from their machines. There was a lot of denial at first. The CEO of the organisation, when first presented with this information, couldn't believe it was right, because the handwritten sheets that were always provided by the miners at the end of each shift showed downtime figures that were only *half* of what we were reporting. These handwritten sheets were quickly proven to be inaccurate, however, because what we were measuring was when the current in the cutter-motor of the continuous miner was reaching a specific threshold which meant they were *actually mining*. When the miners understood this measurement, and how the CEO and management could monitor it directly, they were – somewhat amazingly – able to produce about an hour-and-a-half of extra production every day, which equates to around $14M in savings for the company at this one site. And from that moment, the Pulse integrated solution was used as an absolute culture-change catalyst throughout the organization.

Another area where we're game-changing for the industry through integration is with our planning tool, for planning and execution. In a mining operation, we've got the operation of the production people, we've got the maintenance people, we've got the above-ground support supply chain, we've got HR – and all that feeds into finance. What we've managed to achieve is the total integration of all these things. So, when you're planning what you're doing in the next week, month, three years, or longer – we've got the complete maintenance schedule of what's required under the manufacturer's guidelines for each of the machines based on the projected usage. We've got all the parts; all the labour; all the consumables that go with that. We've got all the production plans in there – where we're going to mine, and what's going to be required. We've got all the rosters in place; we've got all the skills; we've got all the training required for all your staff to ensure that people are in-hand to be able to do what's required, and we've got all the parts availabilities; and when parts are going to be delivered. And we're surfacing all this on the screen so you can easily see where you could have any conflicts or shortfalls. The gains associated with this visibility are immense. So, you can no longer find yourself in a situation where you're planning to do something, but then it can't happen as planned due to some resourcing issue – this risk is basically removed. And the kicker, if you plan down to the right level, is that you can click a button, and for as far into the future as you've got your operations planned, you've effectively got your entire budget which can feed straight up into your financial system. There's no extra effort every few months to produce a re-forecast or do an annual budget because, if your plans are up to date, at any moment in time you can produce a new one.

Other savings through true integration are with supplies, for example. You can save up to seventy-five percent of the time taken to order parts which can take up a fair part of your day if you're a purchasing officer or maintenance planner. You can open up a purchase requisition, log straight into the supplier's website, go to their online catalogue, create your pick slip, and have that feed straight back into the Pulse system which is totally integrated and generates all the associated details around delivery and invoicing.

The data accuracy associated with having a single source of the truth and getting data from the single source means that you're going to have at least a forty percent increase in your data accuracy. You can rely on the data. When questioned, you know that it's absolutely spot-on, and we're always able to reconcile back to the source data in any case.

And by using business process automation tools like our document parsing solution, called *DocRocket*, you can easily save two full-time employees on the manual processing of information coming into the organisation, such as invoices. We'll grab the invoice, suck it straight into the system, and process the payment. We'll get all the timecard information or the gate system information from contractors coming into your site, when they come in and when they leave, and we can automatically generate the timesheet, send that back to the contractor who is supplying that labour, and then ask them to approve the invoices they are going to provide to you. It's all done seamlessly. You can save at least ten hours per week in your pay department because you're checking timesheets and things *by exception* rather than entering from scratch.

Partnership and collaboration

Now, it's all good to say that digital transformation is readily available, but if it's really going to work it needs to be the result of a deep partnership between the software vendor and the miner. We touched on this topic last year at IMARC when I co-presented with Neil Grimes, Project Director, Business Transition, for the Kestrel coal mine takeover by Adaro from Rio Tinto. The Kestrel business transition and full system implementation project was completed in world-record time and it only succeeded to this level because we had deep collaboration with the people on the project team. It worked seamlessly due to regular communication, and being very open and honest, and that's how we love operating. We engage with our customers through the whole journey of an implementation or a development – from design through to development; through testing and then implementation.

We do everything in an agile way at Pulse, and when customers are free of the silo mentality and ready for more agile, collaborative methodologies, our success rate with holistic business optimization and digital transformation is one hundred percent.