Oil & Gas IM: A Perfect Storm

I was talking to a colleague the other day about what I'd experienced coming back in to Oil & Gas IM last year after some time away. I was vaguely aware of the concept of 'Digital Transformation' and the fact that it was 'a thing' in the Oil & Gas industry. But I hadn't anticipated just how much of a thing! It appears I walked back in to something of a perfect storm.

In this piece, I try to unpick some of the key themes that I've observed since coming back in last year. I'll also return to some of these in future blogs for a bit of a deeper dive.

Oil & Gas is changing

Over the past couple of years, there's been a rapid convergence of industry and technology drivers. The industry is transforming, driven by shifting supply & demand balance, environmental pressures, the growth of renewables, peak demand and the whole concept of 'energy transition'. This is fundamentally changing the environment we're working in, although there's no clear picture

about what 'Oil & Gas 2.0' looks like right now.

A step-change in IT

At the same time, the whole world of IT has accelerated, with the convergence of cheap cloud computing capacity, advancing digitalisation, the exponential growth in data and the emergence of Data Science driven approaches to manage and extract value from all of this. The dominance of the major Oil & Gas vendors appears to be eroding, allowing a whole ecosystem of new, innovative technology providers to enter the market, including players from other industry sectors.

The industry is transforming at a rate of change I haven't experienced in 25 years working around Oil & Gas IM. There are so many moving parts that it's difficult to make sense of it all, let alone define a path through this rapidly shifting landscape.

Innovation – we're all Agile now!

After years of suffocating under the heavy thumb of cost control and the relentless focus on small marginal gains, Oil & Gas companies are beginning to innovate again. This is being supported by a thriving ecosystem of technology and service providers – from within the Oil & Gas industry and from outside – providing a potential step-change in the way we work. However, there are many challenges; when does 'Agile' actually become 'Chaos', and what is the new 'lean' governance model? Is innovation always directed at real business needs, or are people just playing? And when it is, how do we move from proof of concepts to operational implementation?

The fact of the matter is the Oil & Gas industry must innovate because it's exhausted all other avenues of squeezing out value. In terms of ROI, it's one of the worst performing industry sectors and has to change if it wants to continue to attract investment.

Data Science – the rise of the robots?

Data science isn't anything new. In the Oil & Gas world, we've been surrounded by data, science and analytics for decades. But the combination of readily available and affordable cloud computing capacity, access to 'big data' and the application of data science to our world is transforming the way we work. We are

seeing some big claims around productivity, quality, accuracy and risk reduction. Although we're right in the middle of a big hype cycle, I've no doubt there is a momentum that will carry it through to the mainstream and fundamentally change the way we work. It's already having a demonstrable effect in the world of operations, and the impact in the subsurface world is likely to be even greater.

It's not about robots taking our jobs as some would have you believe; it's about defining a new way of working that may be very different to what we're used to. We need to bring together the world of the 'traditional' SME and the world of Data Science to effectively exploit the enormous potential.

And at the core of all of this is the data itself. At long last, trying to sell the benefits of data management has become a lot easier. Data Science, AI and ML demand plentiful, high quality data for it all to work. I still struggle to understand why this wasn't the case in the days of supporting 'traditional' analytical tools, when data management was treated as something of a necessary evil. Why was it OK to make decisions on bad data then, but not now? Why were we happy to merely file and archive, rather than properly manage and exploit data? Who cares – data is back in the spotlight, and that's got to be a good thing for our industry – better data, better decisions… surely?

Building capability – who's going to do all this stuff?

This all sounds incredibly exciting, but there's one significant issue. Who's going to do it all? We work in a sector that I think it's fair to say has something of an image problem. This is especially so amongst the new generation coming through that we need to drive this digitally transformed industry. In their view we pollute, we're responsible for global warming and we're largely 'male, pale & stale'.

I might be generalising a little here, but I'd argue it's close to the truth. I see a lot of industry hand-wringing about this, which is ironic given the hire & fire attitude it has had through the many downturns we've endured. But what I am seeing is that some of the new technology entrants in to the industry are managing to attract the sort of new talent we need. It requires a complete change in mindset and not every company will manage it. But those that do will reap the rewards.

That's just a quick skim through some of what I see as the burning topics. More on these in the future, plus I'd love to hear what you think?