The Training & Development Dilemma- How to tackle a growing skill shortage in a cash-tight oil industry

UK Oil & gas labour market in context:

The oil and gas industry is a valuable asset to the UK economy, providing 1 in every 80 jobs. UK is the second largest oil and gas producer in Europe and has to date, contributed more to the Treasury than most other industrial sectors and made a key contribution to the UK's security of energy supply.

Estimates suggest that the remaining reserves within the UKCS could provide energy for at least 35 years and the estimated work force required to do this has been pegged at 340000 as per Industry estimates.

The shortage of skills, however, is a major threat to the overall competitiveness of the industry and one of the biggest challenges that the industry faces today.

Work force profile

The following are some of the important demographic highlights when it comes to profiling the work force in the Oil & gas market:

- ✓ 13% of the workforce is over 55 years
- ✓ 23% is the estimated proportion of women workers
- ✓ 20% is the proportion of contract personnel
- ✓ 26% of the workforce is spending time in overseas activities

  * Source E&Y Report, 2014

As the UKCS continues to mature, the demand for skills is only likely to go up especially when it comes to decommissioning projects, enhanced oil recovery techniques as well as the digital oil field management in particular. Also nascent industries such as shale will lead to new skill requirements and could act as potential competition for existing talent pools.

Growing skills shortage

A survey conducted by Hays has found that skills shortages are the main concern for oil and gas employers worldwide, even exceeding factors such as economic instability or safety regulations. The skill gap is also a reflection of the cyclical nature of the industry. Oil companies have known to shed staff whenever oil prices have dipped and the economics of crude production has weakened. In what has been called the "Great Crew Change", the older generation who was hired before the lay-offs of the 1980s are now approaching retirement age and their replacements are hard to find. As per the Upstream Oil & Gas Industry labour market intelligence summary findings of 2014, 33% of businesses in the upstream oil and gas sector have hard-to-fill roles.

Such staff shortages can often have highly negative consequences such as project delays as also increased risk taking.

According to a 2012 study commissioned by the Royal Academy of Engineering, the system will have to as much as double the number of university graduates in science, technology, engineering and maths – the so-called Stem subjects – that it turns out annually to fill the gaps. As per the study, the country needed more than 100,000 new Stem graduates a year until 2020 – yet only about 90,000 students a year graduate in those subjects. With large-scale infrastructure projects such as High-Speed Rail 2, Crossrail 2 and Britain's proposed new generation of nuclear power stations in the pipeline, the need will only grow.

How to tackle the growing skill shortage:

Some of the measures to tackle this skill shortage include:

1) Supporting re-training efforts using skills from other sectors for example the Armed forces, ship building and downstream refining.

2) Setting up new training centers such as the one for Doctoral Training, the National College for Onshore Oil & Gas, Initiatives such as Tomorrow's engineers, OPITO National Oil and Gas Skills Week. Industry, Government and Education Institutions need to come together and ensure that the Industry is fully equipped with workforce.

3) Setting up of a formal structured programme within organisations that help to create a significant talent pool for the future.

3) As the market contends with the demand for expertise, what is of essence is delivery of technical training that is cost effective. Virtual reality training will therefore play a key role in transforming the training, knowledge & skill development in the oil Industry. The big advantage that it offers is that it is cost effective, enabling companies to bring their entire team to the field in virtual reality offering immersive learning. As an example, a ten-day geological field trip to the outcrops in Utah, for 20 attendees can cost upwards of $100,000 inclusive of airfare and other logistics. On the other hand a virtual reality experience can significantly reduce the cost allowing many more people to attend the training.

Another major advantage of using Virtual reality training is that it can positively impact the gender divide that so sharply exists in the Oil industry. A study by Oil & Gas HR found only 11% of board seats in oil and gas companies were occupied by women as against one-fifth of executive and non-executive director roles being occupied by women in manufacturing firms. Lower ratio of women in technical disciplines is also to do with challenging cultural environments and working practices that restrict flexible working. The use of digital technology can go a long way in enabling companies to conduct explorations and production activities remotely using real time visualisation technologies. This in turn can boost the number of women employees in the industry. The growth in digital will also help draw more young people into the industry which

will go a long way in counter balancing the impact of the retiring workforce.

With cost & relevance of training becoming barriers towards development of workforce capacity and capability, virtual reality training is definitely a major step towards enhancing the industry's capability and competitiveness.