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Adapting to the Downturn: An Examination of How Demand
for Training has Changed in Challenging Market Conditions

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Abstract

With a significant portion of the DP equipped offshore fleet and supporting vessels in layup due to the lower price of oil, many DPOs have found difficulty in gaining continuous employment and many have been forced to make alternative employment choices.

Many Officers are finding it more difficult to log the DP time needed to qualify for DP Certification or to maintain their skills after the certificate is granted. Training providers have responded to this by providing additional training options to ensure ongoing competency.

The paper explores training institutions expanding their training offerings through simulators or training vessels and identifies the quality assurance measures in these arrangements.

Some employers have sought to find more economical sources of manpower to help manage costs in the current economic climate and wish to ensure there is a deep source of qualified mariners when the market conditions improve.

This paper also explores which regions have been most affected by the downturn and how the global position of supply and demand has changed.

Introduction

The exploration and exploitation of energy reserves in the offshore sector is a high-value, high investment activity that flourishes in a market with sustainably high oil and gas prices that allow for investment planning and long-term development.

The hike in oil prices in and around 2008 led to an increase in activity in the offshore sector and an unprecedented demand for qualified Dynamic Positioning Operators. But the boom was short-lived and was followed by a collapse in oil prices and a contraction of the industry.

Commodity prices are determined by the balance between supply and demand. The oversupply of oil caused by an increase in non-conventional onshore production and related political factors the price of oil dropped dramatically in mid-2015. The post-boom nadir of the oil price was reached in January 2016 with trading taking place around \$20 per barrel.

The high cost of offshore oil exploration and extraction compared to onshore forced investors away from work offshore and the effect on the offshore fleet was devastating. “Some \$200bn of long-term projects have been cancelled around the world, notably in deep waters”¹ reported the Telegraph.

As well as infrastructure, a skilled and qualified workforce is essential to future prosperity. This paper explores these factors and in particular how industry has responded in respect of its manpower training and capability. The statistics are drawn from published information and through the analysis of data held in the database of qualified DPOs held by The Nautical Institute.

The Impact of the downturn on essential resources

As the demand for offshore energy declines, activity in the exploration and extraction decays with a consequential reduction in the requirement for the fleets of support vessels.

From the evidence of decline in the number of rigs utilised in the United States, it is easy to see the reduction in activity in the core drilling activity illustrated in figure 1.²

As well as affecting direct employment in the sector one of the most visible impacts from this reduction is on the use of offshore support ships affecting both vessel utilisation and manpower requirements.

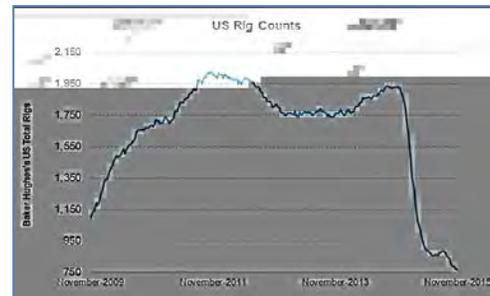


Figure 1

Significant numbers of vessels have been removed from service and while the picture varies with both geography and vessel type the overall picture is bleak. The figure shows estimates of the vessels' status in August 2017 indicating 28% of the offshore fleet is in lay-up. (Figure 2)³

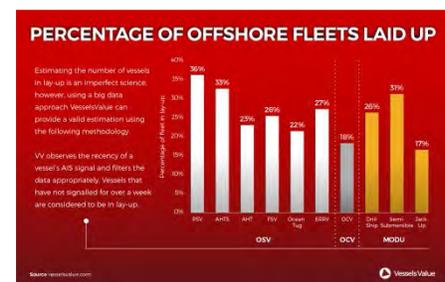


Figure 2

¹ Evans-Pritchard, Ambrose. "Goldman eyes \$20 oil as glut overwhelms storage sites." The Telegraph

² Evans-Pritchard, "Goldman eyes," The Telegraph.

³ "VesselsValue." Last modified August 1, 2017. <https://www.vesselsvalue.com/>.

There have been mergers and acquisitions during this period but even the most optimistic forecasts are not able to predict when oil prices will increase sufficiently to enable some stronger investment commitment to the next generation of oil production offshore.

At the same time over-supply of vessels has depressed the hire rates for those who do gain employment further constraining subsequent investment.^{4 5}

With this picture being reflected globally, the impact on the manpower requirement has been huge. Following the sudden surge in demand after 2008, the corresponding decline has raised serious concerns about how to ensure capability for the future.

This paper focuses on the shrinking demand for the personnel who man the vessels but particularly through the lens of certified or 'under-training' dynamic positioning operators (DPOs).

Many DPOs have had difficulty in securing continuous employment and some have been forced to make alternate employment decisions, leaving the sector completely, often taking employment ashore. It is likely their skills are lost to the industry forever as time and changes in technology make their current experience less relevant.

This raises question as to what steps are being taken to maintain competency and preparedness for those still in employment. These steps are required so the industry can be confident it is ready for when the market bounces back. The longer the depressed prices continue, the greater the impact and the higher the number of older seafarers reaching retirement age and again being lost from the available pool of manpower. At the same time the reduced number of berths on board, the tighter the financial constraints and the overall lower demand means the younger generation is not getting the same opportunities for training as their predecessors.

The next section considers the innovations implemented to address these issues.

The Training of DPOs

The training of Dynamic Positioning Operators requires a long-term commitment. For the world-leading scheme operated by The Nautical Institute, the number of days required on actual dynamic positioning operations is a minimum of 120. With over 100 specific tasks to be completed and a dedicated in-service logbook the requirement is stringent on both the employer and the participant. However the DP time can

⁴ David Foxwell, "Laid up or on the way out?," OSJ, last modified January 24, 2017, http://www.osjonline.com/news/view,laid-up-or-on-the-way-out_46227.htm.

⁵ Andersen, Ole. "Rates for North Sea supply ships at 30-year low." Shipping Watch. Last modified September 7, 2015. <http://shippingwatch.com/carriers/article7999829.ece>.

be reduced to 90 days plus a special simulator course that allows a reduction in the sea service and more efficient use of time on board without detracting from the core experience requirement.

Innovations and efficiency in the training pipeline

But for some the access to training berths on board ship remains a critical difficulty. One innovation, taking place at a training centre in Eastern Europe, is the development of a training programme using a dedicated training vessel. This sees students exposed to actual DP working conditions and helps the trainee get real hands-on experience in a real ship with exercises developed to grow the skills and competency of the individual. This is especially beneficial to younger and recently qualified seafarers training towards their initial DP Certification.

While industry raised some questions about this initiative at the time the centre agreed to an independent audit of its on-board activities to ensure compliance with the requirements of The Nautical Institute Scheme.

Many officers are finding it difficult to log enough DP time to qualify for DP Certification or maintain their current certificate for revalidation. Recognising this, The Nautical Institute has, in collaboration with industry, developed and introduced a course for officers who have already been certified but struggle to log the 150 DP days required to revalidate. The Revalidation Course, launched in January 2017 is designed to address this. Participants are able to revalidate the DP Certificate simply by taking this course with no required sea time. The next revalidation must be completed with some sea time to guard against degradation of competency over a longer period of time.

It seems likely this course will be in high demand and already 28 of the NI's 94 accredited training centres have had their centre approved for the Revalidation Course. This pathway is part of the assurance to industry that personnel can be made ready with a high level of efficiency should there be a sudden upsurge in activity.

A Global Perspective

With diminishing profit margins many companies have sought to consider where and how to undertake the training required by their Seafarers. At the same time training providers have to evaluate the market and determine when and if investment should be made in the infrastructure required to deliver approved training.

Research for this paper has revealed some significant changes in both the training provision and utilisation described below.

Growth in Training Capacity

A growth in training and certification demand might reasonably be expected to be reflected in the global training capacity. The evidence is more complex than this.

Global training capacity has increased steadily for the past 10 years and appears it will continue on this route. An increasing number of training centres are from Asia and South America.⁶ Figure 3 shows the growth of Nautical Institute accredited centres over the past decade.

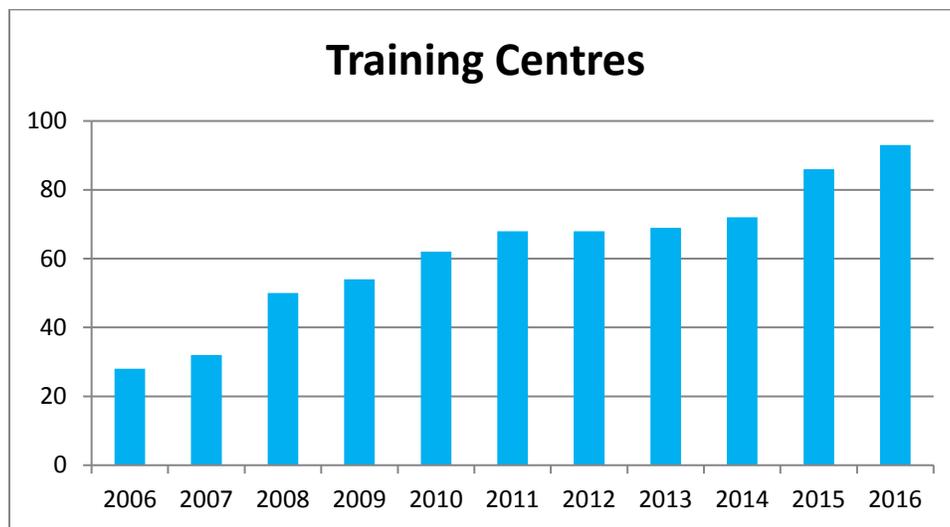


Figure 3

This growth, at least in part, reflects the geographically expanding training requirements where an increasing presence of seagoing staff from developing nations.

⁶ Data captured from the NI OOMI database of training providers

Sources of Qualified DPOs

Analysis of the certification awards over the past 10 years indicate a clear shift from ten years ago when 80% of certificates were from developed nations to a more even split in recent years. (Figure 4)

Year	Total	Developed	Developing
2006	1200	960	240
2007	1300	1020	280
2008	1400	1000	400
2009	2400	1900	500
2010	2900	2000	900
2011	3050	2000	1000
2012	2700	1500	1200
2013	2800	1400	1400
2014	3300	1500	1800
2015	2400	1400	1000
2016	3200	1400	1800

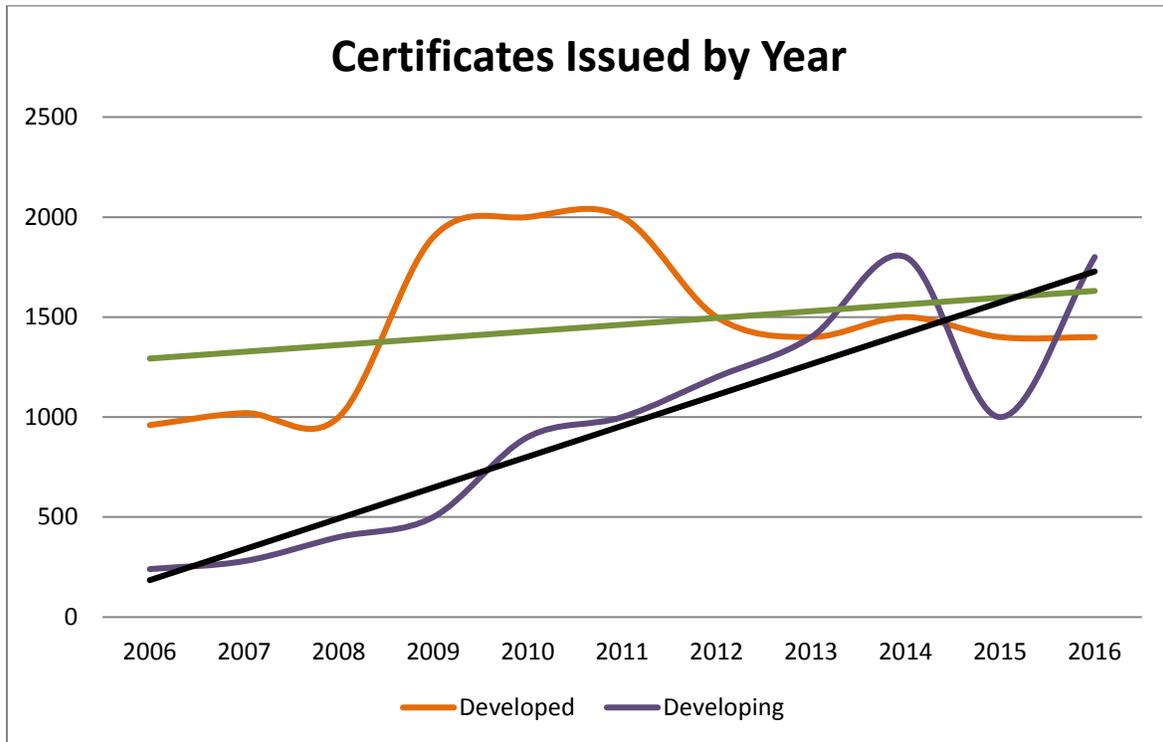


Figure 4

The trends seem to indicate that in the early years of the sector growth every effort was made to meet demand from known and familiar sources. Over a period of time and perhaps taking a longer-term perspective, efforts were made to lower manning expenses by hiring crew who command a lower wage bracket. Lowering manning costs became even more of a priority as profits shrank. The data indicates developing countries' DPOs overtaking those from developed countries in 2013 and for the most part continuing to the current day.

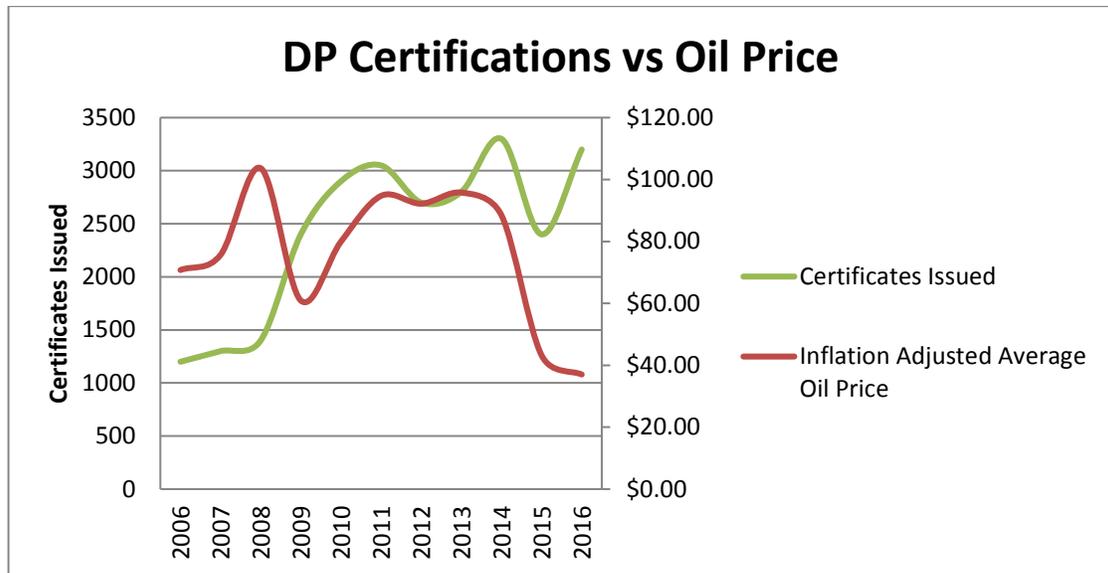


Figure 5

The evidence suggests there is a clear link between the price of oil, the level of offshore activity and the number of DPOs under training and becoming certificated. While the increase in the price led to an increase in training, in fact the supply of qualified officers has continued at a high level. This may be due to increased activity in related industries such as the renewables sector and other specialisations. Whatever the underlying causes, the influence and presence of personnel from developing countries is clearly evidenced and the resilience to the subsequent downturn in oil price seems strong.

⁷ "Crude Oil Prices - 70 Year Historical Chart." macrotrends. <http://www.macrotrends.net/1369/crude-oil-price-history-chart>.

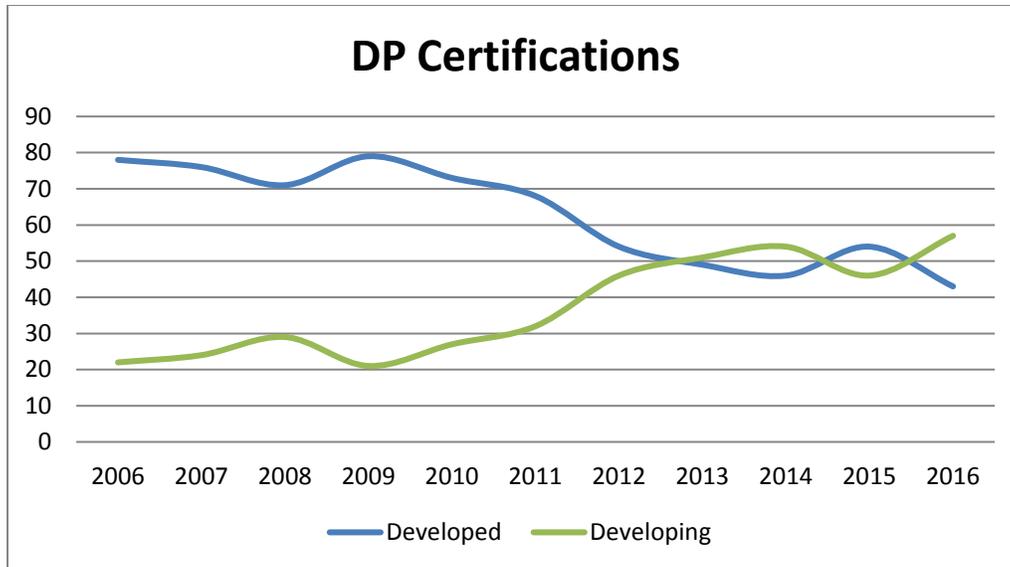


Figure 6

Regional Issues

Numbers for American Certifications have been largely in keeping with the larger trends of the certifications from other developed countries representing their close relationship with global trends, (Figure 7) albeit perhaps offset a little.

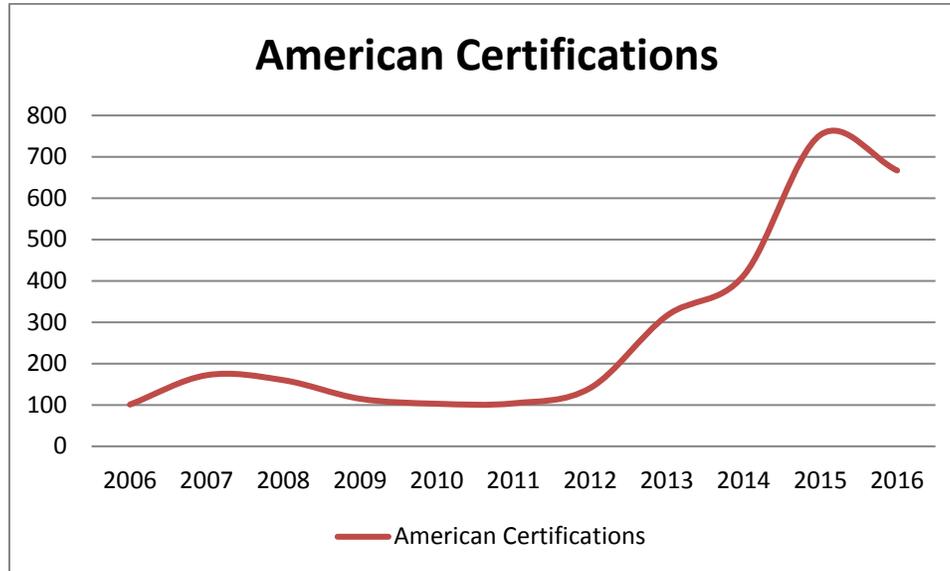


Figure 7

The significant growth in US numbers really took hold in the second decade of the 21st Century with numbers broadly holding up well through the declining oil price. With a large domestic commitment to offshore exploration and extensive use of local ships and staff, the activities around the US coast remain an important element of the world-wide supply of expertise.

Conclusion

There are a number of aspects this evaluation and research as shown that may be useful to personnel planners and vessel operators.

Key findings show:

- The high oil price and ongoing demand for training led to an increase in training providers in developing nations.
- The proliferation of training centres in developing nations has been mirrored by a growth in qualified personnel from the same areas.
- The number of seafarers completing their training and being issued with a DPO certificate has overall shown little decline with the reduction in the price of oil.
- Despite the downturn the numbers being certificated are significantly higher in 2016 versus 2006 despite the fact oil prices in 2016 were much lower than in 2006.
- The supply and utilisation of personnel from developing nations has withstood the downturn in the industry more strongly than provision of seafarers from developed nations.
- The overall picture in the United States shows similar trends to the rest of the world for those seeking internationally accepted qualifications

References

Andersen, Ole. "Rates for North Sea supply ships at 30-year low." Shipping Watch. Last modified September 7, 2015. <http://shippingwatch.com/carriers/article7999829.ece>.

"Crude Oil Prices - 70 Year Historical Chart." macrotrends. <http://www.macrotrends.net/1369/crude-oil-price-history-chart>.

Evans-Pritchard, Ambrose. "Goldman eyes \$20 oil as glut overwhelms storage sites." *The Telegraph*. Last modified November 19, 2015. <http://www.telegraph.co.uk/finance/oilprices/12006554/Goldman-eyes-20-oil-as-glut-overwhelms-storage-sites.html>.

Foxwell, David. "Laid up or on the way out?" OSJ. Last modified January 24, 2017. http://www.osjonline.com/news/view,laid-up-or-on-the-way-out_46227.htm.

"VesselsValue." Last modified August 1, 2017. <https://www.vesselsvalue.com/>.