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Troms Offshore (Norway)

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TROMS OFFSHORE

Introduction

The first mate at the bridge informed her captain that M/V Clean Design Arctic was now crossing the Polar Circle. It was unusual for the captain to be accompanied by the ship's owner, but this excursion was a voyage of discovery. Thor Olsen looked out at the fjords and the magical mountains of the Nordland coastline. Since he had become an investor in the shipping industry, he had sent nearly all of his ships to the southern part of the North Sea, but he was now on his way north. The oil exploitation in the North Sea was at its peak, and the major oil companies were heading north of the Polar Circle in search of new reservoirs of the 'black gold'. As the owner of a new and advanced Platform Supply Vessel (PSV) for the Troms Offshore company he thought about the opportunities that might lie ahead in the Arctic waters. A recent estimate from the US Geological Survey had predicted that 20% of the remaining oil and gas resources could be found in the Arctic regions. However, it would be a challenging task to reach the oil in these harsh waters. Thor remembered his first years at sea as a shrimp fisherman along the Spitsbergen and Greenland coastline. Fog, ice, polar lows and even icebergs were a constant threat. As Thor knows very well, the environment can make you vulnerable. This trip is further complicated by the fact that the indigenous people have shown significant opposition to any oil exploration and so he is expecting anything but plain sailing.

Heading for the Arctic would represent a giant leap for this rather small company but Thor wondered if his employees, particularly the captains and various crews, would take the chance of entering these new waters for there were risks for everyone involved. Many questions raced through his mind such as what new markets would be present up north, and did the company have the necessary resources and organisation abilities to cope with the new challenges? Thor considered how the structure of his company would have to change to accommodate these new northern markets. Key personnel would also have to be mobilised and additional staff would need to be employed. Would the new venture cost too much and therefore affect the quality and safety of the company's North Sea operations?

"Maybe it would be better to stay in the present market in spite of its decline and its harsh competition?"

The owner was glad he did not have to make the decision yet. He was one-week away from returning to base and giving his deliberations to his senior management team on whether or not to recommend that Troms Offshore should expand into the Arctic waters.

Industry Background

The Norwegian oil and gas shipping industry is regarded as one of the most interesting industrial clusters in Europe. This is due to the existence of demanding customers, tough but transparent competition, access to innovative factor markets, and co-operative efforts even between the actors of the industry (in particular the financing of innovative projects and joint education and research initiatives). The customer side of this industry is dominated by the major oil companies who charter vessels for their exploration and exploitation activities at sea. These oil companies hire ships for short-term use (a few days to some months) and also for long-term contracts (5-15 years). The major oil players such as Exxon-Mobil, BP, Shell, ENI, Total, Gazprom and Statoil are particularly influential customers with high negotiation power. When these organisations hire ships for short-term use, the prices for the vessels fluctuate according to supply and demand. The oil giants invite tenders for long-term contracts of new ships if there are new oil fields to be developed. These long-term contracts are evaluated on a broad range of criteria including cost, technical quality, functionality, safety and environmental friendliness/accreditation. The chief logistics manager in a large oil company further explains this, by saying:

“We are encouraging the ship owners to be innovative. Among other things, we are inviting them to think about new technology that may be more environmental friendly, will improve safety, and will reduce the number of accidents among the crew. We also give feedback to the shipbuilders in the yards, to the equipment suppliers and to the ship owners. If a company had demonstrated that they have adhered to such criteria, they would receive a higher evaluation score especially for long-term contracts”.

For the managers ashore and on-board the ship (ship masters), this presents a challenge and can lead to intense competition between suppliers. Suppliers therefore strive to achieve the balance between improvements in the quality of the product versus cost-effectiveness in order to be able to compete on price and remain in business. Thor is only too well aware of this struggle. He observes:

“The oil companies are primarily focused on high service levels and speed of delivery from us. This has to be achieved at the lowest market price if we are to win the tenders. At the same time they want us to follow the highest standards of safety,

security and environmental protection. This is very demanding! They survey the ships often, and they rank us according to performance every year. If we do not comply with their standards, non-compliance reports are written and we are in breach of our contract”.

Since oil companies generate high profits they can exert market power as deemed necessary. The demand side from the oil companies fluctuates according to two key factors: (1) the international demand for oil, and (2) the exploration activities of the oil companies. Low oil prices and fluctuations in the international economy may cause a severe drop in prices which has a devastating effect on suppliers. For example, during the financial crisis of 2009 and 2010 the oil companies reduced the prices far below break-even and the ship owners had to suffer the consequences. As a result, the shipping companies had to take charters where only the variable costs were covered which increased pressure on the senior management of the ship and its crew. This also caused much dissatisfaction to investors because a ship might cost €40 million. In addition to the customer demands, the local government will monitor the shipping industry on a yearly basis for compliance with the international maritime society. For ship owners this means stringent procedures have to be followed which can lead to substantial costs for upgrades and other related measures. Thor had not realised the full extent of the powerful influencing factors when he invested in the business and so he was now looking for new opportunities that might give Troms Offshore a competitive edge.

Industry Competition and Co-operation

The oil related shipping market tends to be highly competitive and is essentially price-based, as often is the case in mature industries. The industry is globally integrated with the main geographical markets being the North Sea in Europe, the Mexican Gulf in the USA and the Brazilian coast in South America. Troms Offshore has its chief market in the North Sea and in this region there are many new ships representing the largest market players in the world. The bigger companies contract new and more advanced ships almost every year, requiring them for diverse purposes such as seismic analysis, anchor handling, towing platforms and platform supply vessels. Therefore having a large fleet of both old and new vessels makes companies flexible and competitive on price for various types of charters. There are also advantages of scale as the larger operations are better able to lower administrative costs per unit. The largest shipping companies are globally positioned, with offices and ships around the world, thus enabling them to purchase new ships and other equipment where prices are lowest.

In Norway over the past decade there has been relatively easy access to financial capital, although the financial crisis and overcapacity of the industry has reduced this supply somewhat. Norway has multiple shipping yards, equipment and service suppliers. For those working in the shipping crews, the industry pays well and the work is attractive to foreign seamen that can be contracted in if there are not enough Norwegians available to fill the various positions. More recently certain ship owners and managers have contracted in crew from low-cost countries as a cost-saving device (for example, hiring a Polish crew can reduce personnel costs by approximately 20% per ship).

Norwegian companies are also fortunate to have maritime schools and institutes providing accredited courses for seamen. Several of its universities and research institutes are also engaged in providing R&D services for the industry. More than half of the R&D costs are financed by the government and these established research links are important for stimulating innovative activity, knowledge sharing and knowledge building within the industry. Usually such research co-operation takes the form of informal and non-binding networks but it can also include more formal projects and strategic partnerships with institutions. In the Norwegian shipping industry there are various levels of co-operation between different companies and regions, while in one geographical region on the North West coast there are very strong links between the shipping companies, the shipping yards, those in construction, the ship owners, equipment suppliers and other stakeholders in the industry. Indeed it is on the North West coast that some of the most innovative and dynamic offshore service companies are found as there is a collective belief locally that there is a key strategic value for the region by working in partnership. Here there is a joint centre of expertise for the wider maritime industry where the ship constructors, yards, equipment and service suppliers work closely on R&D, education networking and building a dynamic industry cluster. The ship owners play a central role in this network also as they recognise the benefits of being a contributor to such an industry focal point.

Company Background

Troms Offshore is a Norwegian shipping company, established in 2005 after a management buyout and it has grown rapidly over its five years in existence. Its main customers are the oil companies drilling offshore. Troms Offshore transport cargo and fluids to and from the offshore installations and platforms, and the company now has a turnover of approximately €50 million and has 300 employees. The administration team includes 15 people, with the

remaining employees working offshore on board the ten vessels managed by the company, with the main geographical market being the North Sea. In addition to offshore oil and gas services, Troms Offshore is also operating a polar research vessel on behalf of the Norwegian Polar Research Institute, and as a result, the company has gained expert experience in operating in polar waters. Its headquarters are located in the town of Tromsø, also known as the 'Gateway to the Arctic'. For Thor, the Arctic region is therefore a logical and interesting area for geographical expansion by the company.

The Challenge: The New Market in the Arctic

For some years now the petroleum industry has been moving towards more exposed waters, in the direction of the Arctic regions, in the Barents Sea between Norway and Russia, Greenland, Canada and Alaska. Deep water, longer distances to the nearest land base and harsh weather are some of the challenges that make transportation and cargo handling a difficult task in these areas. Further north, the ships are further challenged because they may face icebergs, sea-covered ice and severe icing on-ship, all of which puts an increasing strain on the ship and its crew. In this context the company faces a significantly higher level of risk and greater elements of uncertainty. As Thor explains:

“This is a different world for us as to be serving offshore oil and gas installations. Suddenly a polar low could appear with heavy wind and swell. Fog and darkness may reduce visibility, and you risk colliding with icy bits. The satellite positioning systems are simply unreliable this far up north, there are large areas with in-accurate maps, and to make matters worse you are outside helicopter reach if anything should happen to your crew here. In addition, there is limited infrastructure so everything takes longer. All in all, you have to be prepared for the unknown and ready to deal with unsolvable problems”.

Uncertainty is characteristic of this market. There is a need for more tailor-made ships with better infrastructure and more co-operation between partners in order to advance beyond the North Sea. It is also essential to liaise with key stakeholders in the Arctic including, among others, environmentalists, regional governments, indigenous people, and other groups with conflicting interests. This consensus-based approach greatly increases the complexity of the operations. To illustrate, environmental groups like WWF, Greenpeace and Bellona oppose drilling in these waters. Thor recalled a prior incident involving one of his vessels:

“In a harbour in Iceland, the captain and crew had to be escorted by the Coast Guard and protected from sabotage by local activist groups protesting against oil

exploration. This was a testing time for the crew and increased the uncertainty of the whole operation.

The risks for Troms Offshore are obvious in the Arctic waters. Yet the challenge this opportunity presents provides a means of differentiating the services of the firm and therefore reduces competition as Troms Offshore is more experienced than most in the Arctic region. With oil companies lacking experience specifically in the Arctic region, Troms Offshore would be in a position to provide value added services. For oil companies (including the market giants) Troms Offshore could advise on how to manage successful operations in Arctic waters. Thor indicated the potential of this market when we conversed over dinner with the captain of M/V Clean Design Arctic recently:

“We have one ship in operation in the Arctic region. It is a polar research vessel. We could easily access and transfer navigation experience from this vessel to others. It would be a new business platform. We could provide tailor made operational consultancy services for the oil companies. In addition to providing high quality logistics, we could provide the oil companies with ongoing support for planning and operating in these waters. In fact, we could expand into other parts of the value chain where a new business concept might be derived”.

Of one thing Thor was quite certain, oil companies needed to build capacity in the Arctic waters. They also need to have employees who are qualified to deal with the uncertainty and complexity of such ventures. Thor thought that the oil giants would be willing to pay a high price to acquire this expert knowledge. But the question niggles away at him, would Troms Offshore’s current business model be able to accommodate the new challenges of this market region. As Thor explains:

“It is quite a different task to operate in this new market arena compared with the traditional market in the North Sea. We have the potential to expand the services of the company but to achieve this we may have to reconstruct our organisation and management systems to be flexible and innovative enough,and ultimately to provide more complex products.”

Thor perceived the main challenge for Troms Offshore to be the risk of losing shipping contracts in its current market space. How easily could Troms Offshore transfer its operations from a market characterised by stable customer demands and established procedures towards one where the organisation would need to be prepared for high uncertainty and complexity. He made a note that on his return he needed to discuss with his senior management team their new competitive strategy, the configuration of a new business model leveraging Troms

Offshore resources, and how to facilitate the change process, particularly from the perspectives of customer and staff.

Company Strategy

As Thor considered the discussions that he needed to have with his management team, he began to analyse the company's existing strategy and realised that the competitive strategy of Troms Offshore varies according to the degree of:

1. Aggressiveness in the marketplace with regard to trying out new concepts. This may vary on a scale from a reactive, imitation strategy to an offensive, proactive strategy.
2. Differentiation of products towards the specific needs of selected customer groups. This may vary on a scale from standard products (towing equipment, etc.) to tailor-made products such as working with the Polar Research Institute on the Polar Research Vessel.
3. Cost efficiency leadership which in turn influences the degree to which price is taken into consideration in bidding for a new contract.
4. Product diversity that is needed to cover the specific project requirements, from one type of product to many product variants within the industry.

To survive, Troms Offshore's traditional focus has been on cost efficiency which means that they have to operate at low cost according to best practice standards and within recommended quality standards. As one of the senior managers of Troms Offshore declared at the last monthly meeting:

“Our strategy is not to experiment a lot with new technology development. We leave this to the largest and most entrepreneurial companies that have larger profits. These companies can afford to conduct R&D themselves and take the risk of experimenting. They are developing and testing machinery, fuel types and vessel types, partly financed with public research money. Hopefully, this technology will be available as ‘shelf goods’ after a couple of years.

During the market lows, there are limited profit margins and these need to be compensated for during the market highs. Therefore, to survive in this highly competitive industry, Troms Offshore ensures that the appropriate expertise is hired which includes experienced personnel with a thorough understanding of cost efficiency, forecasting, and effective operation of the company.

The Business Model

Like any business model, the Troms Offshore business model defines the structural and financial architecture of the business, the business logic, the value chain, the technology and the governance of the firm, including its external exchange partners. The business model usually follows closely the company mission statement and its competitive strategy, while the value chain can take the form of a series of standardised, sequential interactions of business activities. In Troms Offshore it is rather streamlined, with sequential exchanges at the operational level for the fleet of ships owned by the company. First, the owners, as investors, decide upon financing a vessel for a particular market. Once a ship is designed and the design plans are signed-off by the owners and investors, the construction process can begin when the shipping yard starts the building process. The company follows the building process with specialised inspectors from the technical department and experienced ship officers that make sure that the ship is built according to the required technical specifications. After the ship is finished, an experienced crew will staff the vessel and the ship will undergo multiple tests during its first operations. The sales department then offers the ship for short-term use and a contract is written based on the best offer. Any additional requirements that are necessary to satisfy an agreement are usually contracted into the company from a reliable pool of suppliers. Some of these suppliers are long term trading partners that provide the company with supplies on a continuous basis, as well as sound market information. However, Thor is keen to point out that when prices are being negotiated, they are treated like anybody else. When Troms Offshore needs to keep costs down by contracting in a well-qualified and low-cost foreign crew, they use a small number of companies for this recruitment. They also work with a select number of shipping agents in order to assist them in their efforts to win new contracts.

Organisational Structure

The organisational structure of Troms Offshore consists of four departments: personnel, charter, technical and accounting. In addition to these, the Quality, Health, Safety and Environment (HSEQ) co-ordinators also serve as a staff department. The organisation is rather flat, with a managing director, assisting director and four department heads being part of the senior management group. There are two captains on each ship serving as 'plant managers'. They are supposed to work one month on board followed by one month's leave. Regarding the external relations of the organisation, these are mainly based on standard operating procedures with suppliers and customers. In addition, there are sporadic ad hoc development projects with external investors and constructors if there are new long term

contracts with new ships in demand. This is mainly the responsibility of senior management who have a wide informal network within the industry from which they derive a lot of useful market information.

The organisation functions seamlessly in terms of bureaucracy, with clear tasks for each of the departments. However, in a small organisation there is a lot of informal communication between the departments. This also includes frequent contacts with captains and engineers on board the ships as there is a continuous need for problem solving. Thor emphasises the importance of this informal communication between his key workers since this is one aspect of the current company structure that he is keen to preserve. As Thor explains:

“We are like a big family. The captain of the ship talks with the land-based manager several times a day to co-ordinate the operation, to solve problems and to maintain the ship. The tone is friendly even though they may not agree all of the time. Both men will feedback on the solutions chosen, and often as a result we are able to introduce a series of small improvements that have long-lasting impacts for the company”.

Each of the ten vessels represents an advanced ‘production plant’ at the cost of €20-40 million. The ships are both cargo and tank ships, with highly advanced loading tools and positioning systems. The new ships are characterised by a high degree of automation which means that the crew on board has to be highly trained and skilled in electronics and managing machinery as outlined in their job descriptions and in their roles and responsibilities. There are also strict shipping regulations which are outlined in the company’s quality manual and the crew must recognise formal authority on board. The ship is certified according to the regulations of the International Maritime Organisations and the company has a quality management ISO 9001:2000 certification which means the strict adherence to additional quality standards for management. Environmental certification (ISO 14001: 2004) is also common in the shipping industry and is maintained by the company.

Resources Issues

The resources of any company can be categorised into basic resources, management resources and dynamic capabilities. The latter are resources that create change and innovation within the company. These changes may be small incremental steps that improve the organisation or they may be more radical innovation that alters the whole competitive platform through an entrepreneurial venture. The basic resources of Troms Offshore are related to running the ships smoothly, where the main resources are able seamen and officers onboard the ships, and

a well functioning operational staff onshore. With regards to management resources, Troms Offshore is highly dependent on well qualified captains onboard the ships and the managerial competency of department heads based onshore that control different functions and people. To illustrate the following critical resources have to be available to operate each of the ten vessels:

1. A chartering department that attains the highest possible day rates on each contract based on superior market knowledge and customer network resources.
2. An operational and technical department with efficiency in reducing costs of operating the ship (especially the costs of repairs and salary) based on technical and organisational knowledge resources, and also on having strong relationships with co-operative officers onboard.
3. A quality management department that secures compliance with government regulations, quality certification and the quality demands of the customers and contracts through an adequate quality management system.
4. A personnel department that recruits the best qualified personnel and crew, protects the welfare of all workers and maintains high morale among crew (to achieve high levels of motivation among crew, reduce sick leave, and moderate salaries).

The management layers of Troms Offshore are tightly coupled together. Those in the middle management layer need to combine formal and operational experience, whilst the senior management layer is heavily involved in the day-to-day operations but at the same time their role is a more strategic one (for example dealing with the external strategic links). The senior management team tends to draw upon an extensive network of contacts in the industry that has been built up during many years of service. As there is limited slack within the organisation, the dynamic capability of the firm (including small changes and innovation steps) is primarily the responsibility of management. They are a key entrepreneurial resource for the company since Troms Offshore has limited resources for R&D and rely instead on co-operation with research institutions.

Within Troms Offshore the system for decision-making, directing work and communicating with other employees within the company is based on standard operational procedures. The tasks of the crew and land-based staff are governed by written procedures and instructions. Management has to comply with international mandatory rules and regulations governing their actions with regards to navigation, loading, pollution and safety. The officers onboard are required to have undertaken specialised training. The ship is also required to seek

accreditation from government authorities and government appointed associations are entrusted with auditing responsibilities. While these procedures can incentivise a company to improve efficiencies onboard vessels, the reality is that the company primarily seeks efficiencies due to the need to keep market prices. It is difficult to be entrepreneurial and innovative in such a regimented and price-conscious market.

Conclusion

Troms Offshore is faced with a new opportunity which could lead the company in a very different direction from where it is currently positioned. For the owner, Thor Olsen, he realises that whatever he chooses to do will require the full support of his management team. The team have been loyal to him over the years and the company has had relative success with its North Sea operations. His company has always been progressive but expanding into the Arctic waters could be a step too far according to his senior advisors. Thor has always been a calculated risk-taker and he recognises that if he had not taken the risk and ventured into the shipping industry (as he had done 12 years ago), then he would still be a shrimp fisherman along the Greenland coastline where the challenges and rewards are certainly very different!