MANAGING
HUMAN RESOURCES
IN THE OIL & GAS INDUSTRY

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Overview of the Management of Human Resources

The oil and gas industry is arguably the most important industry in the world. It provides energy for our vehicles, heat for our homes, and electricity to run our daily lives. It provides the raw material for countless products ranging from asphalt to zippers. A comprehensive list of all the products made from oil would include hundreds of products we use every day, including aspirin, balloons, clothes, dentures, eyeglasses, footballs, guitar strings, and hair spray.[1] The oil and gas industry also has important implications for national security, international relations, national and international politics, and the economic development of countries. It provides millions of jobs around the globe.

Unlike most industries, the oil and gas industry depends heavily on natural resources as well as capital resources. Like most industries, human resources are critical for the oil and gas industry to succeed. The people a company chooses as its employees and how they are managed will impact every aspect of the firm. The research on human resource management (HRM) is clear: How employees are selected, trained, compensated, and managed affects the bottom line of the firm as well as the productivity and well-being of the employees themselves.[2] Yet, because of the distinct differences of the oil and gas industry from other industries, the management of human resources in this industry also differs. This is where this book comes in. We look at the distinct differences between the oil and gas industry and other industries and show how these differences impact the management of human resources. These differences are outlined below:

1. **The global nature of oil and gas.** The oil and gas industry is one of the most global industries in the world. The products of the

facilitates learning; and the availability of resources that provide trainees with everything they need to actively participate. Some of the trainer and training session factors include clear communication; culturally relevant material; trainers who make the material meaningful; and sessions that allow for practice, provide feedback, and stimulate a feeling of accomplishment by trainees.[43] Table 1–3 summarizes these factors. The next aspect that helps your company's training be successful is transferability to the job.

Table 1–3. Factors that maximize learning in training

Organizational Factors	Location Factors	Trainer Factors	Training Session Factors
A culture that accepts and rewards training	Convenience to encourage attendance	Clear communicator	Culturally relevant material
Supervisors that reward rather than punish employees who seek training	Comfortable, quiet, and private setting	Trainer makes material meaningful	Sessions allow practice
Adequate technological support	A workspace that facilitates learning	Trainer provides constructive feedback	Sessions that provide feeling of accomplishment
Giving trainees the opportunity to use what they've learned	Resources to encourage active participation	Respected and knowledgeable trainer	Sessions that motivate trainee to learn

Facilitate training transfer and performance maintenance. Even if trainees thoroughly learn the training session content, it will not benefit the company unless the learning is transferred to behaviors on the job. Therefore from the company's view, creating an organizational and job environment that helps trainees use the learned material on the job and maintain high performance levels using the learned material is critical for training to be effective. Getting trainees to initially and regularly apply the learned content to their jobs can be accomplished in a number of ways, including setting up specific goals that require the use of the new skills, abilities, or knowledge; reinforcing the use of the new content through positive feedback; measuring performance; and providing regular feedback. These can be accomplished through a good performance management system, which we will discuss later in this chapter.

Monitor, evaluate effectiveness, and adjust. When making so many decisions regarding who, what, and how to train, it is unlikely that anyone would get all the decisions exactly right on the first try. Monitoring and evaluating the process and outcomes throughout will help determine if anything

2013 Rank	2012 Rank	Company	Market Capitalization (billion US$)	Primary Business	HQ Country
25	26	Duke Energy	48.7	Electricity	United States
26	22	Reliance	46.8	R&M	India
27	38	Phillips 66	46.2	R&M	United States
28	39	EOG Resources	45.8	E&P	United States
29	40	Halliburton	43.0	Drilling & oilfield services	United States
30	33	ENEL	41.2	Electricity	Italy
31	27	ONGC	40.0	Integrated NOC	India
32	31	Anadarko	39.9	E&P	United States
33	44	Iberdrola	39.9	Low carbon power	Spain
34	45	Dominion	37.5	Gas/utilities	United States
35	32	Imperial Oil	37.5	Integrated IOC	Canada
36	28	Kinder Morgan	37.3	Midstream/infrastructure	United States
37	30	E.ON	37.0	Gas/utilities	Germany
38	35	NOVATEK	36.8	E&P	Russia
39	42	Canadian Natural	36.7	E&P	Canada
40	29	Southern	36.2	Electricity	United States
41	34	Enbridge	36.2	Midstream/infrastructure	Canada
42	43	Apache	34.3	E&P	United States
43	46	National Oilwell Varco	34.0	Equipment & EPC	United States
44	60	Endesa	34.0	Low carbon power	Spain
45	24	BHP Billiton*	33.1	Other	Australia
46	54	Repsol	32.9	Integrated IOC	Spain
47	37	TransCanada	32.3	Midstream/infrastructure	Canada
48	52	Sasol	31.8	Integrated IOC	South Africa
49	47	Husky	31.2	Integrated IOC	Canada
50	41	Surgutneftnegaz	30.7	Integrated IOC	Russia

Source: IHS. IOC is integrated oil company; NOC is national oil company. Note: BHP Billiton is ranked based on a value of 19% of the company's total market capitalization, representing the contribution of its petroleum segment to total EBIT in the 12 months ended 6/30/2013.

Viewed from an ownership and corporate objective perspective, NOCs lead a complicated existence. As controlled by the state, they must serve a variety of different commercial and political objectives. (It is important to note that many NOCs are also publicly traded, but the governing government share—the *golden share*—remains with the government.) NOCs are often required to provide a secure supply of oil and gas for the country; provide

cycles."[12] Refining margins for the US Gulf Coast, Northwestern Europe, and the Singapore markets are shown in figure 2–7.

The profitability of refining is driven primarily by the following factors

1. The costs of crude oil (by far the largest cost)
2. The cost of energy to run the refinery
3. The supply and demand for refinery products (i.e., if refining capacity is tight, refining margins usually rise)
4. Refinery product prices, which are set by a combination of the supply and demand of refinery products and crude oil prices
5. Refinery location and operational skills

After a so-called golden age of refining from 2002 to about 2007 (as seen by the large and positive spikes in refining margins in figure 2–7), refining entered a new era of change and consolidation. By 2014 many US and European refineries were either shut down or on the verge of closure. A report by A.T. Kearney concluded that by 2021, every refinery in Western Europe and North America would have to restructure, strategically reposition their assets, or leave the market.[13] Interestingly, despite the closure of various refineries in North America, total refining capacity continued to rise through de-bottlenecking and expansions to existing sites.

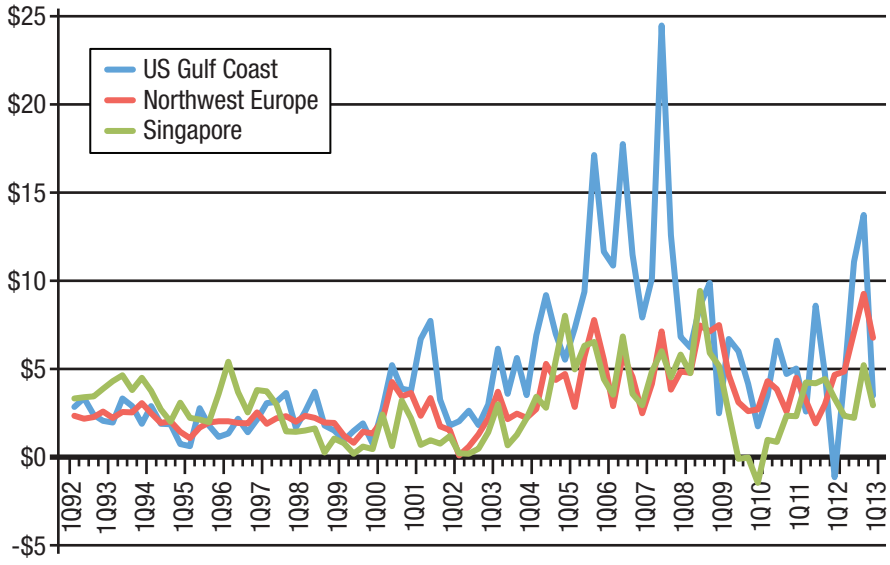

Fig. 2–7. Refining margins (US dollars per barrel)
Source: Constructed by authors based on data drawn from *BP Statistical Review of World Energy, 2013.*

Historically, the costs of LNG treatment and transportation were so huge that development of gas reserves was slow. In recent years, LNG has moved from being a niche product to a vital part of the global energy business. As more players take part in investment, both in the upstream and downstream, and as new technologies are adopted, the prices for construction of LNG plants, receiving terminals, and ships have fallen, making LNG a more competitive energy source. LNG ships are also getting much larger and more efficient. In addition, natural gas to liquid (GTL) technology provides an alternative to LNG and converts gas to liquid products, such as fuels and lubricants, which can be easily transported. Questions remained about the economic viability of GTL technology, and only a few major projects had been completed, including the largest one, Shell's approximately $20 billion Pearl project in Qatar.

Major technological and structural changes continue to occur in the LNG business. The floating liquefied natural gas (FLNG) vessel is a technology that allows producers to commercialize offshore gas deposits without pipelines and onshore infrastructure. FLNGs create opportunities to commercialize gas fields that would otherwise be untouched. Another innovation is the floating natural gas liquefaction, regasification, and storage unit (FLRSU) vessel, which moves the various industrial processes offshore and makes the equipment available for redeployment at the end of the resource life.

Changes in the LNG market and in LNG shipping have increased flexibility for producers and consumers, and shorter contracts have been negotiated. The agreement to develop the huge Qatargas 2 project, jointly owned by ExxonMobil and Qatar Petroleum, was finalized without contracts for gas sales in place. An LNG ship can deliver its gas anywhere there is an LNG terminal, making LNG almost as flexible in delivery as crude oil. There is also speculation that the rapid growth in Middle East LNG supply could lead to a global convergence in gas pricing and markets, with LNG becoming a traded commodity. As well, buyers and sellers have been taking on new roles. Buyers have been investing in the upstream, including liquefaction plants. Producers, such as BP and Shell, have leased capacity at terminals and are extending their role into trading. New buyers have been emerging, including independent power producers.

Shale gas. The second factor that helps explain the increased importance of gas is *shale gas*. The impact of shale gas on US and global gas markets has resulted in what has been referred to as a game changer for US energy supply. As recently as 2003 the consensus was that the United States would have to import large quantities of LNG to satisfy gas demand. Less than a decade later, US production can easily meet domestic gas demand and