Bridging the Talent Gap of the Energy Industry: Developing a Transnational Competency-Based System

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Abstract

Talent is the driver of growth for any society and organization. However, effectively recruiting, retaining, and developing talent is a challenge task in all industries, specifically in the energy sector. The energy industry is facing a serious challenge despite high international migration flows. Many countries are becoming more restrictive towards inward migration in order to protect their existing workforces against unemployment. There, are two primary issues confronting the energy industry: deficient supply of people with the necessary skills and the aging demographics with the high rate of retirees.

Based on the literature review it is recommended for organization to implement a competency-based human resource system to manage and develop its workforce. It can be used to provide organizations with a competitive edge and enable them to compete domestically and globally. Moreover, it enables an organization to develop the capabilities necessary for sustaining skilled talent pipeline that are able to work across political, cultural, and knowledge boundaries.

This paper investigates the need for adopting a transnational competency-based system as a solution to address the energy workforce challenges and to fast-track skilled workers in high demand positions. It also provides an overview of a competency-based system as a strategy to manage and develop a global workforce in the context of the energy industry.

Keywords: workforce, skills gap, talent, oil and gas industry, energy industry, competency-based system, transnational competency model, talent pipeline.

Introduction

The global business market is in constant flux as technology advances, economic powers shifts, workforce demographic transforms, and customer needs evolve. Organizations all over the world are competing, not only for market shares but also for talent. Talent is the driver of growth for any society and organization. The supply and demand for talent across the globe has changed the business environment and skilled/qualified employees continue to be a 'hot' commodity. "Profound shifts in the global marketplace are ushering in a new era of complexity, uncertainty and change for companies. The rise of the internet and related technology has accelerated these market shifts, up-ending business strategies, models and processes along the way" (Oxford Economics, 2012, p. 4). Therefore, effectively recruiting, retaining, and developing talent continues to be a challenge in all industries, specifically in the energy industry.

Energy, specifically the oil and gas industry is facing a serious challenge despite high international migration flows. Two primary issues impacting the energy industry are: deficient supply of qualified people and the aging demographics. According to Molavi and Satterlee (2014) "a serious need is emerging for power, energy, and construction industries to replace retiring engineers and technicians so that the critical expertise is maintained. Yet skilled workers are not easily available to replace them at the rate of the demand" (p. 17751). The energy industry has a significant impact on a country's economic growth and it is considered the backbone of some countries' economy. According to Gu and Wang (2015) "oil and gas resources are an important strategic energy source and safeguard for national economic lifelines and security" (p. 369).

However, having a large reserve of natural resources is not enough to compete in today's oil and gas-based economies (Yasinski, 2014). The U.S. Department Labor, Employment and Training Administration (2007) reported that "global demand for energy is projected to continue rising, and energy industry employers will need skilled workers to meet that demand" (p. 4). Thus, energy companies need to recruit the right number of skilled and competent workers and specifically technicians to operate and maintain their growing business. Nevertheless, recruiting those skilled and competent individuals for the energy industries is a challenge task and is increasingly affected by the changing global economy, advanced technology, and the shortage of educated candidates with the necessary competencies to succeed on the job.

Individuals that have developed transferable skills from one industry are very attractive to the oil and gas industry and are highly sought-after, imposing additional demands on human resources to not only attract and hire the right people, but to educate and develop the right people. Based on literature review it is recommended for an organization to implement a competency-based human resource system to manage and develop its workforce. The system can be used to provide an organization with a competitive edge and allow it to compete domestically and globally. It help the organization to identifying the current and future anticipated roles so that objectives of the organization are achieved and simultaneously the needs of the employees are also met. Moreover, it enables an organization to develop the capabilities necessary for sustaining skilled talent pipeline that are able to work across political, cultural, and knowledge boundaries.

Purpose of the Study

The most pressing challenges facing global organizations today are directly related to workforce challenges (Tarique & Schuler, 2010). In today's complex global economy, organizations have to attract, manage, and retain talent to achieve sustainable growth and gain competitive advantage. According to the U.S. Department of Labor, employment and Training Administration "although most energy industry careers pay well, the industry faces several challenges in recruiting and training a sufficient number of workers" (p. 11). Therefore, these new challenges are forcing organizations to rethink fundamental practices and strategies in talent management (Mahapator, 2010).

This paper investigates the need for adopting a transnational competency-based system as a solution to address the energy workforce challenges and to fast-track skilled workers in high demand positions. It also provides an overview of a competency-based system as a strategy to manage and develop a global workforce in the context of the petroleum industry.

Workforce Challenges Facing the Energy Industry

All over the world, organizations are struggling to find an adequate supply of qualified and talented individuals (Wall, 2007). According to Molavi and Satterlee (2014) "industry in general and the energy sector in particular are experiencing a sharp decline in skilled and experienced workers at every level. The oil and gas industry in spite of global expansion in this area, are struggling to hire qualified staff to respond to the volume of demand for these commodities" (p. 17751). A shortage of skilled and qualified workers is compelling many industries globally to change how they attract and employ talent.

A key challenge is that most newcomers to the workforce often lack the practical experiences and skills required in the business world. Furthermore, potential young employees are more likely to seek positions with multinationals and geographically dispersed organizations taking them away from their national roots. In addition, demographic trends point to an aging population with an expanding number of people approaching the retirement age. More people are leaving the workforce in greater numbers than those entering, creating a huge chasm in the talent pool. Therefore, organizations need to ensure future generations are well prepared and equipped with the necessary competencies to meet their predecessor's responsibilities (Miracle, 2004).

Deficient Supply of Skilled Workers

All job sectors within majority of most industries have raised employers' demands for more knowledgeable, well-trained, career-ready workers. The competition for high-skilled occupations continually rises as massive numbers of talented baby boomers exit the labor pool (Gordon, 2012). Many organizations intense workforce needs and are forced to look outside of the geographical boundaries, as well as, outside of it's own sector to find skilled workers for many of their jobs. Many more have to conduct intense trainings to make their employees effective workers. According to the U. S. Department of Labor, Employment and Training Administration (2007) the energy industry employs more than 1 million people nationwide and represent 4 percent of

total Gross Domestic Product (GDP). It plays an essential role in the country's economic and national security (p. 4). However, the energy companies have big shortages of skilled workers. They reported that "they will need to hire well above replacement levels as new power plants are constructed, new technologies are adopted, mines are opened, and new oil and gas wells are tapped to keep pace with the nation's need for energy" (U. S. Department of Labor, Employment and Training Administration, 2007, p. 4).

Identifying an appropriate worker who matches the job profile and other criterion is not an easy task. Organizations spend considerable time and effort to hire a suitable match. In practice, this will require posting a vacancy and interviewing viable candidates. In addition, adapting to a new job in a new organization typically takes time and most likely extra training to reach full productivity. Therefore, hiring skilled workers may result in substantial expenditures (Blatter, Muehlemann, & Schenker, 2012). The most common practice for matching people to jobs is through job descriptions and job requirements. However, it is important to note that most often, they represent the baseline requirements for a job and are not sufficient for recruiting, selecting, and developing top performers (Dubois & Rothwell, 2004).

Aging Demographics

An aging workforce dramatically impacts the global skill shortages. This is intensified in some countries undergoing major demographic shifts, such as a surge in youth or a rapidly aging population. For example, "In Japan, the country with the oldest median age group, 85% of employers can't find the talent they need. In India, which is experiencing unprecedented population growth, 61% of employers struggle to find talent. In Brazil, where the fertility rate has dropped from six births per woman to two in less than two generations, the talent shortage rate is 68%." (Donovan, 2013, p. 13).

A large number of baby boomers are will become eligible for social security benefits at the rate of 10,000 per day (Galagan, 2010). According to a 2006 Census Bureau Report, the US population aged 65 and over is anticipated to substantially increase in size within the next 25 years. They also anticipated that by 2030, approximately 20% of Americans will be 65 years or older (as cited in Sterns, 2010).This phenomenon is not restricted to the US. In 2003, A Boston Consulting Group researched talent trends and estimated a worldwide skilled labor shortfall of 60 million workers by 2020, including a 17 million-labor shortage in the U.S. (Holland, Sheehan, & DeCieri, 2007).

The lack of technical skills, limited experience, and a shortage of candidates are some of the reasons that positions cannot be filled. However, businesses can start to address the upcoming skills gap by identifying best practices for employing and optimizing an aging workforce, as well as capturing their knowledge to prepare the next generation of workers. The authors recommend implementing a competency-based approach to manage talent. This may include defining job profiles, conducting job interviews, selecting appropriate candidates, implementing engagement strategies, developing learning strategies, and determining organizational capabilities.

Understanding Competencies

In order to survive and compete in today's highly competitive market, it is essential to determine what competencies a business needs (Sanghi, 2009). Competencies and competency models have become widely practiced in many organizations (Vazirani, 2010). Hofrichter, Spencer, and Lyle (1996) argue that competencies are the right foundation for effective human resources management.

They play a major role in identifying the current and future anticipated roles so that goals of the organization are accomplished and, at the same time the needs of the employees are also met (Mahapator, 2010). According to Bhardwaj and Punia (2013) "a competency is considered as a measurable characteristic of a person that is related to effective performance in a specific job, organization or culture" (p. 74).

Furthermore, competency-based systems are used to improve employees' performance, and align individual capabilities with organizational core competencies (Rothwell & Lindholm, 1999). It can contribute to organizations knowledge base and increase the knowledge utilization capability of an organization. In short, competency-based approach is focused on improving organizational performance (Zaim, Yasar & Unal, 2013). "It thus makes increasing sense in today's business world to think in terms of competencies—which speak to a qualitative view of talent—rather than in terms of head count or work activities" (Dubois & Rothwell, 2004, p. 67)

There are two approaches to competencies: the first approach "defines competency as underlying attributes of a person. It is largely an input-based approach, defining the inputs needed to demonstrate competent performance" (Bhardwaj & Punia, 2013, p. 75; Boyatzis, 1982). On the other hand, the second approach interprets competency as a set of performances and standards (Bhardwaj & Punia, 2013). In essence, "competences describe what people need to be able to do to perform a job well" (Mahapator, 2010). They are intangible resources that are critical for gaining a sustainable competitive advantage (Drejer, 2002).

According to Dubois and Rothwell (2000) "one of the most important determinants of success is whether the people in an organization have accepted and adopted an internally consistent set of definitions and concepts for competency work" (as cited in Rothwell et al., 2015, p. I-16).

Table 1 lists a few key definitions that are essential to understand a competency-based approach.

Table 1: *Key Definitions*

Term	Definition
Competency	Sets of characteristics that a person possesses which is a combination of skills, knowledge, traits, feeling, and job attitude that can be observed, measured, and evaluated (Rothwell et al., 2015).
Job Competencies	"An underlying characteristic of a person which results in effective and/or superior performance in a job" (Rothwell et al., 2015, p. 29).
Technical competencies	Refers to "the specialized primary and highly related knowledge and skill competencies that employees must possess and use in appropriate ways on the job" (Rothwell et al., 2015, p. 29).
Job description	A job description is a written statement of the duties, responsibilities, minimum educational requirements, and minimum experience requirements necessary for the job (Dubois & Rothwell, 2004).
Competency Model	A descriptive tool often represented through illustrations that map competencies in a hierarchical manner. It identifies the knowledge, skills, and behaviors needed to effectively perform a role within a(n) job, occupation, organization, or industry. Competency models can take a variety of forms (Campion, et al. 2011; Cao & Thomas 2013; Rothwell et al., 2015).

Importance and Benefits of Competency-Based System

Focusing only on the job is not enough in today's business world (Dubois & Rothwell, 2004). Organizations need to focus on both the people and on the job that they are doing. In the workplace, an employee's traits, attitude, skills, and knowledge will affect the work outcome. These traits, attitude, skills, and knowledge all make up the employee's competencies. Thus to get the work outcome or to get the job done well, we need to know these competencies. These competencies build the competency-based system.

Implementing this kind of a system can significantly impact an organization's effectiveness and efficiency (Snell & Dean, 1992; Dubois & Rothwell, 2004). A competency-based system helps an organization to address all challenges, meet their business objectives, and get a competitive advantage in the by integrating its HR strategies with the business strategies (Pritchard, 1997). Also, it links the individual competencies with the organization business goals (Cooper, Lawrence, Kierstead, Lynch, and Luce, 1998; Dubois & Rothwell, 2004). In addition, these systems enhance productivity and create effective processes recruiting, selecting, developing, evaluating, and even compensating high-performance employees (Lucia & Lepsinger, 1999).

A competency-based system fosters the training within organizations. One of the primary reasons for the increased level of competency-based program usage is that these programs can easily assimilate learning activities or initiatives into the daily business processes rather than traditional training, which is often isolated from daily business operations. By linking individual competencies with the desired organizational competencies through competency modeling, the development of successful training and development programs becomes an effort with great potential for meeting the needs of all parties involved. Also, this system, facilitates designing and building more focused training programs (Tompkins & Daly, 1992).

Competency-Based Approach in a Transnational Space

We are no longer bounded. Most business, in some form or another, extends and operates across national boundaries; whether it is their customers, suppliers, or even employees. Popularized by Randolph Bourne, transnationalism describes a new way of interacting across boundaries (Jucan, 2010). This interconnectivity of people is creating a cultural, social, and economical phenomenon. However, as we continue to live and work in a diverse society, the need to develop skills that better equips people to operate effectively becomes crucial in almost every aspect of our lives, particularly in the work environment.

It is no longer enough to assess the right person for the right job, we must also consider the right environment. As previously discussed, a competency-based approach helps to integrate the organization's talent initiatives using a common language that is grounded on the organization's goals and mission. Therefore, implementing a competency-based approach in a transnational space allows an organization to develop talent initiatives that are adaptable based on its current environment. Common uses of a competency-based approach used today includes workforce planning and technical talent management, both of which are critical to today's energy industry.

Workforce Planning

Organizations seeking to grow and improve performance in today's transforming economy are paying a greater attention to workforce planning. Improving organizational performance to gain a competitive advantage in both global and local market requires an effective and efficient workforce plan that can manage talent shortages and surpluses. According to Hirschman (2007), "workforce planning can provide perspective for business success" (p. 44). One of an organization's essential human resource (HR) functions is to ensure that its short and long-term strategic plans are being met (Tripathi, 2010). It also needs to ensure that it has an adequate supply of workers with necessary skills and qualifications to accomplish its mission. However, most organizations struggle in developing and implementing effective and efficient long-term workforce plans and determining the size of the workforce needed for the future.

The terms workforce planning and strategic staffing are used exchangeable in the literatures. It refers to comprehensive planning for the entire organization's workforce (Rothwell, 2005). It is a process ensures that an organization has the right people with the right skills they need at the right place and at the right time (Kazan, 2005).

Helton and Soubik (2004) have defined workforce planning as "a methodical process of analyzing the current workforce, determining future workforce needs, identifying the gap between the present and future, and implementing solutions so the organization can accomplish its mission, goals and objectives"' (p. 460). In short, workforce planning is a long-term plan that helps an organization to align workforce strategies to its desired business outcomes. It determines the size and quality levels of workforce required to support the business' objectives.

Importance of Workforce Planning

There are urgent needs for workforce planning in organizations and especially organization in the energy industry regardless of their size to develop for the anticipated changes in the workforce demographics and economy. It is obvious that globalized competition, information revolution, and technological advancement are altering the demands for different types and number of workforce. Therefore, to adapt and maintain competitiveness in response to the transformational and dynamic business environment, organizations urgently need to develop a successful workforce plan.

According to Freedman (2009), workforce planning helps organizations make better decisions related to investment in human capital and managing business risks and cost more effectively. It can reduce shortages of workforce and shortages of skilled employees, and to enhance administrative systems (Alturaigi, 1997). Moreover, it analyzes the competencies of the existing workforce against projected needs to identify performance gaps and determine the quantity and quality of the workforce needed to achieve optimum outcome (Ball & Gotsill, 2011). Therefore, the objective of workforce planning is to anticipate the workforce skills organization needs and then prepare an action plan to close emerging gaps and overcome challenges and obstacles that may befall in the future (Kirch, 2008).

Workforce Planning Process

There are many ways to approach workforce planning, and the best approach is dependent on the organization's specific needs and capability. Overall, a majority of organizations agrees in four basic steps: 1) supply analysis, 2) demand analysis, 3) gap analysis, and 4) action plan. Anderson (2004) and Vernez, Robbert, Massey, and Driscoll (2007) have suggested four major steps that involved in workforce planning:

1. Supply analysis: describe and analyze the current and projected workforce in term of total number of positions needed, composition, and competencies needed.
2. Demand analysis: describe what the workforce should be now and in the future in term of total number of positions needed, composition, and competencies needed.
3. Gap analysis: compare demand to supply to identify the differences between the present and the future staffing needs.
4. Solution analysis or action plans: prepare and implement a solution to close the most critical gaps between the supply and demand.

In general, the workforce-planning process involves taking steps for identifying and matching the projected workforce needs of an organization with the available and

emerging employee skills in the labor market (Choudhury, 2007). Therefore, in order for workforce planning to be successful: it should be viewed as a business process rather than an human resource process; begin with a few critical positions; recruiting committee or group should participate in the process, it should be reviewed and updated regularly at least every quarter; and use latest technology to develop effective workforce planning (Freedman, 2009). Leonard (2005) stated that "successful workforce planning is an ongoing process rather than a singular event. Only after problems and shortages are identified and repeatedly revisited will a company be able to develop a plan that addresses specific needs" (p. 24).

Technical Talent Management

Since McKinsey produced the "The War for Talent" in 1998, it grasped the attention of the human resources professionals (Chambers, Foulon, Handfield-Jones, Hankin, & Michaels, 1998). Organizations focused on talent recruiting, developing, and retention, which increased the importance of talent and employee value in the business world (Scullion, Collings, & Caligiuri, 2010). However, organizations found that focusing on talent is not enough. There also needs to be a strong focus on technical talent (Kim, William, Rothwell, & Penaloza, 2014).

Technical talent focuses on "the most talented technical and professional workers who rely on professional judgment or specialized training to perform their work" (Kim, William, Rothwell, & Penaloza, 2014, pp. 96). Technical talent management can be defined as "the process that focuses on attracting, developing, and retaining the most talented technical and professional workers and transferring their specialized knowledge to less proficient or less experienced workers" (Rothwell, 2011, p. 12). In the early 70s of the 20-century, the technical talent was used to describe engineers and science professionals (B.G.R, 1971). Also, those employees who work in occupations that require specialized knowledge and training following the North American Industry Classification System's (NAICS's) definition of the professional, scientific, and technical service sector (U.S. Bureau of Labor, 2012; Rothwell, 2011).

Thus, it is more than a talent management. It deals with both the talented people and the knowledge that they have. Those employees who spent years working for a company has gained experience, maintained a level of professionalism, and has acquired expertise from working in that industry and particularly in that company. Their knowledge or the intellectual property that they have built over the past years needs to be secured and accessed.

In addition, those employees need special management to attract, retain, and develop. Moreover, those employees could be a good source for competency modeling programs that assist in developing and improving business processes. Thus technical talent programs would focus on those who are high-performance employees, known as 'high-performers' (HiPro) to model. Moreover, HiPro knowledge, skills, traits, job attitude, and behaviors can potentially be the focus of a competency-based program.

Complexity of Transnational Competency

Communicating, collaborating, and interacting with people from a multitude of different cultures requires not only intercultural competence, but also transnational competency. According to the Institute of International Education, transnational competence (TNC) refers to (1997, p. 5-6):

> … the ability of individuals, organizations, communities, and governments to effectively cope with the rapidly changing transnational environment and to realize their goals … Transnationalism refers to the emerging era where relations and networks are being formed around common interests, affinities, and sentiments, often with little regard for the constraints of conventional geographic space. Transnational Competence enables the formation and functioning of these networks.

As the world becomes more interdependent, talent challenges become more complex. Therefore, workforce demands will require a dynamic and flexible talent pools that are able to adapt to its surroundings. However, the HR professionals must also adapt and implement talent strategies that are able to hit an accelerated-moving-target. Therefore, the authors have recommended implanting not only a competency-based program to manage a diverse workforce, but a transnational competency-based program that can adapt to its changing environment.

Conclusion

The challenge of effectively recruiting talented individuals into the energy industry, particularly into the oil and gas industry is daunting. Two primary issues confronting the energy industry are: deficient supply of people with necessary skills and the aging demographics with the high rate of retirees. Furthermore, recruiting experienced, skilled professionals for the energy industries is a challenge task and is increasingly affected by the changing global economy and the shortage of educated candidates with the necessary competencies to succeed on the job. Based on literature review it is recommended for an organization to implement a competency-based human resource system to manage and develop its workforce. Adopting a competency-based system as a solution to address the global workforce challenges can help fast-track skilled workers in high demand positions. However, assessing the right person for the right job also requires assessing the right environment. In an accelerated changing environment, talent initiatives must be adaptable cross the political, cultural, and knowledge boundaries. The bottom line is that adopting an effective and efficient workforce strategy is necessary to ensure that organizations thrive, and the energy industry remains a key driver of economic growth on the future.

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