

Managing and Nurturing Geoscience Talent

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Abstract

Geosciences have evolved rapidly during the past few decades with the introduction of computer technology in all disciplines especially hydrocarbon exploration. The development of computers analog to digital to imaging technology has led to a paradigm shift in interpretation tools and techniques. The mentoring and retention approach of previous decades are neither applicable nor relevant today. The new skill-set of young geoscientists will have to be matched with the generational change in mindset. The prevalent approach of "what can you do for me" needs to be replaced with "what I can do for you" to remove impediments to the innovative and creative thinking of young professionals in the petroleum industry.

Hydrocarbon exploration which requires creative and analytical skills has attracted a plethora of young and restless workforce in the exploration industry. These talented and intelligent geoscientists not only work for their pay-cheque but also demand respect and freedom to innovate at the workplace. Besides, they seek career progression and pursuit of happiness with work-life balance.

Retaining and nurturing such talent has become a challenge to the greying breed of geoscientists. The need of the hour is to adapt and mould our thinking processes and work habits with this new breed of explorationists. The concept of "leading by teaching" will have to be replaced with "giving freedom to learn, innovate and deliver".

Introduction

It is familiar to hear phrases such as, "easy oil has already been discovered", "oil is in the minds of geologists", "oil is where you find it" etc. Billions of dollars are poured into hydrocarbon exploration every year and geopolitics is often played out on the turf of black gold. Governments and heads of states influence bidding processes and outcome of lucrative oil blocks around the globe.

This background sets testing time for exploration and production companies to deliver at a rapid pace with stricter norms, bringing cohesiveness in sustainable growth and research to the forefront. Ultimately human resource is judged and its capabilities scrutinized. It is what we are that becomes the organization. Against this backdrop, the importance of geoscientists and their nurturing and retention cannot be over emphasized.

The authors have experience of over three decades in the field of oil exploration. The authors have gained rich experience by working with mature veterans of yesteryears as well as with young minds of today in the field of hydrocarbon exploration. We always hire the best minds from universities and train them to graduate from academic excellence to practical skills in hydrocarbon exploration processes. The geoscience division in every organization should lead their talent and capabilities in such a way that it makes a difference to the exploration processes and leads to successful outcome of any exploration venture. When these young geoscientists see their actions leading to the fulfillment of their desire, they begin to develop a sense of belonging. They understand that the risk and rewards are their own and that the company belongs to them.

Developing a Dream Workforce

The world over organizations spend millions of dollars to train and nurture their work force. The cost intensive nature combined with set timelines and a high risk-reward ratio of the petroleum industry makes it unique and sets it apart from any other manufacturing industry. The knowledge, intelligence and analytical mind of geoscientists plays a key role but their practical experience makes them more able to take investment decisions. To develop such a “dream workforce” the following ideas, some of which are conventional and others unconventional and follow an out of the box management style, are being discussed:-

1. Plan career, not fill vacancy:

Any fresh mind entering the geoscience talent pool is unaware of the various verticals of hydrocarbon exploration methods, processes and management. The tools and techniques, the risk and reward, and the huge financial implications are unique to this industry. The organizations need to plan the career of these geoscientists rather than fill a vacancy in any of the verticals where a shortage of manpower is brought to the notice of higher management. The problem gets compounded when change in assignment is resorted to without considering individual personal traits, skill sets and inclination. It is often argued that any organization can develop skill sets by training and mentoring but in geoscience, innate aptitude and attitude play a crucial role. Career planning requires that an employee is given the option to choose assignments with guidance from the management keeping in mind his or her skill sets and the organization’s long term goals. ONGC is one such organization where absolute freedom is granted to any willing geoscientist to pursue any professional idea. No one stops or creates hindrances to any one’s working, there is never any resource crunch, and there is only support and encouragement from peers and management.

Career and succession planning would ensure that geoscientists do not work for their pay cheque alone but are also engaged in the pursuit of professional happiness and satisfaction. Otherwise the fast paced attrition rate of other industries will spread to the petroleum industry too in the next decade when skilled and experienced personnel retire.

2. Develop experts, not generalists:

Geoscience is a science which is diverse and complex. It assimilates most of the other common sciences like physics, chemistry, math, botany and zoology, to name a few. It would be interesting to note that the principles which are applied in hydrocarbon industry are also used in medical science like sonic (in ultrasound scan), magnetic (in MRI), electromagnetic (in X-ray) etc.

- Hydrocarbon exploration prospect and generation requires integration and convergence of geology and geophysics talent. It is often argued that for a true explorationist, it is imperative to be an expert in both geology and geophysics. But the fact of the matter is that the application of both these sciences in hydrocarbon exploration is so exhaustive that mastering both becomes very challenging. In the end, it makes one more a generalist than an expert. It is often said that “a generalist is one who knows less and less about more and more and an expert is one who knows more and more about less and less”. The generalist can become a “manager” whereas an expert can be groomed to become a “scientist”. There is no denying the fact that for any successful exploration venture, managers are as important as scientists. A manager with sound knowledge of exploration principles coupled with financial acumen is better suited to take techno-commercial decisions on the viability of any exploration venture. But the manager-expert ratio should ideally be kept at 20:80 and NOT other way round in any organization.

Creating an environment that nurtures talent and make geoscience employees experts in any organization will help retain a large chunk of them. Managers should adopt new methods of developing and conditioning their business in a way that engages and nurtures the younger generation.

3. Develop healthy work-life balance:

Every employee, including geoscientists, struggle to achieve a meaningful work-life balance. The mind of a geoscientist, like that of any other scientist, is always research oriented. As far as they are concerned thinking of ways to solve problems never stops regardless of whether they are at the workstation, in the field, travelling, or are at home. The employer/manager often overlooks this aspect of a geoscientist’s life and fails to

understand his or her stress level. Hence it is the responsibility of both the employer as well as the employee, to make an effort to strike a balance between work and leisure. The manager, while demanding competence, quality, meeting deadlines and seeking results at work may follow these simple time tested rules:

- Prioritise (first things first): Prioritising schedule and work leads to better time management and improved productivity.
- Ask only what your subordinate can do: It is futile to demand work which a subordinate cannot do. Assigning and challenging an employee without the proper skills set to complete any assignment will only lead to unproductive outcome and demoralization.
- Make meetings useful for manager as well as employee: Meetings should be planned in advance, communicated. Proper homework should be done. These make meetings more meaningful and useful.
- Communicate effectively and involve employee in discussion: There is no substitute for two-way communication. One-way communication implies trust deficit and/or lack of cohesiveness and involvement amongst the participants.
- Give ownership of any task to employee, along with resources and flexibility of time within deadlines: Ownership brings out the best in any team, especially when resources are made available and working hours made more flexible.
- Let an employee learn from failures and mistakes, and let him move on: Everyone, from presidents to peons, scientists to servants, makes mistakes. It is the experience and learning from these mistakes and failures which prepares employees for bigger and more challenging assignments. One of the biggest shortcomings of today's young generation is their inability to handle pressure. The simple measure of it is whether the employee is able to sleep peacefully at night. The manager must be understanding of unintentional mistakes and help the employee develop.

Geoscience is not an abstract science. Therefore, it would have different approaches, probabilities and possibilities. A veteran has put it in simple words, "A bad map is better than no map at all" and "No map is wrong in the absolute sense and any map is right at that point of time with available data and which will certainly be revised/modified with new inputs in terms of newer data, thinking process and technology".

The efforts of employer/manager alone will not aid in creating a healthy work-life balance in any geoscientist. It is a universal fact that mostly employees do not have control over time while they are in office but they can prioritise their work and habits to make effective use of their office stay. The following work habits will go a long way in addressing this issue:

- Plan in advance, work bit by bit and piece together: The employee needs to prepare any project in advance prior to starting his work. It is always beneficial to break down work structure and work bit by bit and finally piece it all together.
- Drop activities in office that consume your time and energy: The employee can improve the productivity of any organisation by restricting his time and energy and by restricting activities which have an incrementally negative effect on productivity e.g. gossiping and limiting time spent on the internet and in making/receiving personal calls etc.
- The employee needs to be mindful of staying healthy. It may cost him time and money in the short run but it will pay in the long run. He needs to take to regular physical activity which energize the body and the mind (yoga, walking, jogging).
- Stay healthy by eating nutritious food, quit or moderate smoking/consuming alcohol). This will increase the chances of being disease free which impacts one's professional as well as personal life. The human body is a complex machine and withstands lots of wear and tear before breaking down. The ill

effects of over indulgence are never perceived or felt at a young age and are known only when one reaches middle age.

- Spend time with family and friends without bringing work into the discussion. This is easier said than done that in modern day work culture but efforts need to be made to achieve such a goal. Taking up some hobby or relaxation activities will de-stress the mind.

Lastly, let us remember, twenty four hours are enough for any individual, from the US president to the common man to pursue his professional and personal goals and happiness.

4. Assist to Lead

One of the greatest skills any manager should have is to foresee the potential of a young geoscientist. The experienced manager's achievements lay in all the energy and skill he inspires in his workers. Oil exploration is not like any manufacturing industry where there can be near certainty of achieving production target if everything goes as per plan. Who amongst us can guarantee achievement of reserve accretion target? Who amongst us can guarantee a production target? It is because of these uncertainties that the power and authority of any manager in a geoscience venture is often blurred and is under constant flux. The contrived clarity of any target chart often means little in practice. So, in order to succeed managers need a relationship with geoscientists as co-equals and develop unique rapport with them. More often than not, managers are promoted for fulfilling the targets and vision of their superiors. They usually have served their superiors in course of serving themselves. Any manager's primary task should be to serve his organization by empowering others to achieve their potential. The oft-repeated "command and control" type of management would not work in geoscience where the "boss" knows what exactly he wants his men to do, and then ensure that they do it in his way is not relevant in geoscience. In geoscience, it is the "employee" first and the "system" needs to be made robust and resourceful to serve the creative needs of the employee.

Empowering geoscientists to make decisions will not impair additional value creation. Instead, it will inspire them to take bold and unconventional decisions. Geoscientists today are desirous and capable of greater flexibility in approach and responsibility. Managers need to assist others in developing their ideas rather than show off his knowledge and experience. They need to assist their employees to take cautious risks rather than make them anxious.

5. Listening and Learning

Often managers/superiors do not pay much attention to what the young generation has to offer in terms of ideas. Some might think that "we will tell them what they need to think." But such a mindset will only leave younger generations disheartened and disengaged. Engage the younger members of our profession by speaking about the things that matter most to them. The keys here are innovation, engagement and collaboration, which are regarded positively by young professionals.

In summary, a manager should serve those with whom he works and give up the outdated management approach of command and control which has outlived its utility.

Conclusion

Retaining and nurturing geoscience talent is a challenging task in today's environment where personal priorities and technological advancements throw up innumerable opportunities. To ensure organisational continuance a leader must find, nurture and develop young talent which can adequately inherit the reins at a future date. The conventional methods of human resource principles and practices will have to be adjusted with the new reality. The focus now should be to empower those who work under us to enable them to pursue their career goals, professional satisfaction and personal happiness. The role of the manager would be limited to providing resources and direction to achieve those goals.

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