

The Changing Face of Geosciences in the 21st Century, and What You Need to Know to Survive Once You Get There

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It wasn't long ago (at least it seems like just yesterday) that the domestic upstream oil and gas industry was still in the exploration phase - looking for new reserves, exploring for new play concepts and enhancing technology to find new resources. Our geosciences disciplines were generally isolated disciplines that got together as technical teams but operated as Generalists within their silos. The majority of geoscientists were involved in the exploration side of the business, and we spent our time and energy looking for new and yet undiscovered resources.

Now, the industry compass has swung around to other directions. Today, the most hydrocarbons being "discovered" are by the drill bit as unconventional resource. The new resource plays are based on resources that we've known existed in the ground for years – we just couldn't economically get them to the surface. The "mining" of oil and gas (oil shale, tight gas, heavy bitumen) is now a materials-handling process rather than true exploration. Much of our current technology advancement is in the area of horizontal drilling, rock mechanics and induced fracturing – all designed to assist in the extraction of hydrocarbons from known areas and to bring the resource to market.

The new entrant into this evolved geosciences business is likely a Gen-Yer from the so-called "Age of Entitlement" generation. How this generation interacts, communicates, works, plays and otherwise carries on is important to understand for the manager. It is also important to understand from the Gen Yer's point of view. We have three generations active in our industry at this time and the generation gap has never been bigger.

As an industry, we are facing an incredible dilemma. Our brain trust demographic is retiring, and we have a small group to fill their shoes. While the job market should be running full throttle to replace us - the rapidly departing Baby Boomers and early Gen-Xers - hiring is still subjected to the whims of the ebb and flow of oil economics. Yesterday, all of the new grads were offered jobs. Today, there are many without an interview. As soon as the industry regains its traction and needs to fire on all cylinders, where is the experienced talent to drive business forward? We had better figure out more ways to keep our young people enthused about the geosciences or we won't have replacements coming in our stead.

My Credentials: I graduated from the U of M in 1978, and am a full-fledged stereotypical Baby Boomer. My parents are classical Builders (Traditionalists) and my kids (a relative term) are Gen Y. I have managed a service company of Baby Boomers, Gen X and Gen Y staff for many years and I have at least a cursory and pragmatic understanding of the issues. For my sources of information, I flagrantly plagiarize from reliable Internet sources like Wikipedia and various blogs, rely on innuendo and hearsay, discuss issues with my peers over beverages and read the odd professional management article. All in all, sound and reliable sources of fully pedigreed information.