A Microworlds of Exploration and Development: Creating a Learning Laboratory for the Oil & Gas Industry

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Abstract:

Much has been written of the use of computer simulation coupled with an interface as part of a learning laboratory. Through the use of a fun, easy-to-access interface participants can explore the system principles at play in their own work environments in a structured workshop setting. But do these learning laboratories bring about change in the way managers make decisions? The authors will discuss the success they have had in introducing teams of managers to the concepts of system dynamics through the use of computer simulation. Over the past four years, the authors have worked with six teams within two separate oil and gas companies. These efforts have led to significant changes in the way the team members look at their business and the choices they have made to prepare themselves for the future. This cumulative experience has provided the foundation for the release of a commercially available "Microworld" which allows the user to experience the dynamics of running an oil and gas exploration and development company. This software eliminates a good portion of the up-front time and expense needed to get to a meaningful system dynamics model of a business. It is expected that incorporating this simulator in a workshop setting will provide a quick and effective method to introduce the concepts of system dynamics to an industry that is in the midst of a great deal of change.
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What is a MicroWorld?

- Combines system dynamics model with user interface
- Provides easy access to simulation
- Compresses months of experience to a few hours

Learning Laboratory

- Workshop environment with Microworld
- Provides context for the simulation
- Allows teams to discuss the relevance and learning opportunities

The Great Game of Business

- Unlocking the Power and Profitability of Open Book Management
- To create an environment in which people can continuously learn and grow
- If you’re keeping score, there must be a game going on somewhere. The only issue is whether or not the players know it.
- Create job security by giving people a scorecard and a way to influence the score

Crossing the Chasm

Experience in the Oil Patch

- Gulf Canada
  - 2 Geographic Areas
- Amoco Canada
  - Heavy Oil
  - Conventional Gas
- Amoco Bolivia
- Unocal - Gulf of Mexico

175
Decisions

- Exploration Wells
  - Find more reserves for your company,
  - this is how you'll grow
- Projects to Fund
  - Develop Reserves into Producing Assets,
  - build up your cash flow
- Hiring and Layoffs
  - Hire enough people to get the job done,
  - but look out for you overhead
REFERENCES


