

Issues stifle technology adoption

Technology suppliers carp about slow acceptance of new ideas. Here are a few positive steps to deal with that resistance. (First in a quarterly series of articles on technology adoption.)

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The successful launch of a new technology in the oil and gas business is a formidable task and requires a different set of business skills, sales strategies, organizational structures and business drivers than normally found in our business.

Often, success or failure is determined by a potential client's perception of value or the market's competitive response. These factors are greatly influenced by the details of the launch process, the motivation of the people involved, and their ability to understand and respond to client and market demands in a timely fashion. Success depends on market planning, successful field implementation, hard work and flexibility within the proper launch strategy.

Most technology start-ups are so involved with internal issues they underestimate the role of competitors, supplier power, potential entrants, government regulation, tax changes, environmental factors and customer clout in the launch process. Below are some of the critical elements of any new technology launch, and how those elements are critical to its eventual success in the oil and gas industry.

Business planning. While good technology is a key to the successful execution of the new product or service, a good business plan is essential for its existence and profitability. The key points addressed in a good business plan are identifying client needs and requirements, competitor capabilities and reactions, market requirements, potential partners and alliances, preferred business models, a business/marketplace strategy, a resource model, realistic financial projections of income, costs and profits, and an exit



Technology providers must deal with a series of critical elements if they want oil and gas industry acceptance for their technology. (Diagram courtesy of Dapish Oil and Gas Strategy Consultants)

strategy.

Given the exuberance of its developers, it is natural for the business plan to be optimistic. However, an unrealistically optimistic plan leads to unreasonable expectations and exaggerates the shortfalls.

Understanding the potential market.

The primary purposes of any market survey are to determine the:

- potential markets for the new technology;
- potential customer's specific needs;
- features that are important for each set of customers (including governmental or company regulations and policies);
- major potential customers and which of those are more receptive to new technology;
- which potential customers have the most urgent need for the technology;
- competitors;
- contractual and personal relationships existing between key clients and competitors; and

- purchase drivers.

Key clients. The first client is extremely important to the successful launch of any new technology. We highly recommend that technology launchers seek participation of their initial clients in the development process, and seek their input in key technical and operational decisions. Aside from helping to build a good and trusting business relationship, client's engagement helps create a sense of ownership and commitment to the technology.

Another key element of the launch planning is to identify where within the client's organization the potential value of the new technology is most likely to be understood and appreciated. The business relationship with the first client can take several forms. Simple examples of these include client "sponsorship," special pricing agreements to facilitate a field trial, preferred customer arrangements, etc. Other issues to be discussed are intellectual property rights of the parties and associated

licensing and royalty issues, technical publications and the use of results for advertising.

System reliability. Another critical aspect of new technology launch is to establish the client expectations and what constitutes a successful launch. The oil and gas industry is highly capitalized and places huge emphasis on system reliability. On the other hand, there is an inherent risk with any new technology launch, especially during the "teething" process. The success of the new technology depends on its ability to meet at least a minimum reliability requirement as defined by the expectation of its end users.

Value proposition. There is a common misconception in the oil and gas industry that the client understands and can compute and optimize the value of the new technology. Establishing the value proposition is much more important to the provider than it is to the client. Further, given the client's position as the buyer of technology, it is not to its advantage to share that information with the seller.

The client's main driver is always to have better and multiple alternative solutions to any challenge. Therefore, the obligation for identifying, quantifying and marketing the value for any new technology, falls to its provider. The natural tendency of any client is to downplay the value in order to get a better price. The most important part of calculating the value is knowing how the technology fits into the client needs. The better and more thorough this knowledge, the more credible the computed value. This calculation should be looked at strictly from the client's perspective. The value has to fit the price in such a way that the client still gets a good return for its purchase of new technology. Since this information will be shared with the client (as a tool for justifying the new technology) the computations should be realistic and credible. One use for establishing the value is to help the client sell the new technology within his/her own organization. Another advantage of this exercise is that it identifies who and where within the client organization is most likely to appreciate the value, and whose support will be essential during the life of the new technology.

Pricing. This area is always one of the most difficult to address with our clients. A good pricing strategy should recognize and consider the value created by the technology and clients' next best

alternative. To be competitive, the new technology has to offer an advantage uniquely its own; price, performance, simplicity, availability, safety, reliability, etc. While some of these values are easy to quantify, others may become more complex depending on client specific conditions. Two golden rules of pricing are; the client will always bargain for a better price, and, the client will pay a reasonable price for a desirable feature, but will always dislike the feeling of being "taken." One important element of pricing is packaging the technology.

Integration. Historically, within the oil and gas industry, the operator has retained the role of integrator. Integration requires deep knowledge of the new technology and how it can fit into the existing system. Proper integration is key to the full realization of value. For complex or innovative technologies, the user may not have the technical know-how for optimum integration. If so, the developer will have to fill the gap, at least during the launch phase. A complex integration process can in fact increase the risk of failure.

Alliances and partnering. An important feature of today's oil and gas industry is its high level of interdependency. A good business plan looks at the needs of the company and determines which segments can be provided internally and which are better secured from outside. Some of these can be acquired through simple or special supplier arrangements. Some of the others require special business arrangement to secure confidentiality, availability, or any other feature critical to success. In this process, special emphasis should be placed on two issues, cash preservation, and security of core technologies. Identifying where and with whom these special relationships should exist is part of the "art" of launching new technology.

Protection and access to IPR. Any new technology business should look at intellectual properties rights (IPR) from two different perspectives; what belongs to the company and should be protected, and, what the company does not own, but is essential for provision of services or products to others.

Organizational readiness/resource planning. One of the hardest decisions for successful technology introduction is whether the existing culture, skills,

compensation and other people systems of the organization are suitably aligned with the needs of the new technology launch. Many large companies have the technical knowledge to introduce new technologies, but their structured and slow approval processes do not meet the flexibility and speed requirements of new marketplaces.

Exit strategy. Every business plan must have an exit strategy. This strategy addresses the vision and intent of launching the new technology; whether it is to set-up a new business and sell it, use it as part of a potential merger, enhance the current shareholder's equity, or to create a separate sustained business.

Competition. Every successful technology will eventually create competition. In fact, creation of competition in the service sector is one of the business strategies of operators. The easiest method of competing is to provide the same service or product at a lower price. The second market entry always has the benefit of hindsight. The longevity and success of new technology depends on how rapidly it enters the market, and how much price flexibility it maintains to meet the competitive challenge.

Competitive environment. The most predictive, measurable component in determining the long-term margin for any technology is the intensity of the competition to fill that need. Any market system faced with a direct threat to the status quo will respond and adjust to any new technology. The challenge for the new technology provider is to predict those responses and be prepared with appropriate business strategies to assure continued success. The competitor response can be to develop a competitive technology, to play the role of spoiler, reduce prices of competing services, form alliances with key suppliers or technologies, or to develop alternative sources.

When viewed as a macro system, new technology introduction requires a monumental effort from both a business and technology perspective, in order to assure marketplace success. The road is littered with quality technologies that failed to achieve their marketplace promise, because the proper business planning, technology development and marketing processes were not in place to meet the market demands and assure their ongoing success. **E&P**