

To Learn What People Want, Trade 'Idea Stocks'

By BARNABY J. FEDER

SOUTH POMFRET, Vt. -- BUSINESS students from the Massachusetts Institute of Technology, participating in a mock stock exchange at a vacation lodge here, received instant feedback from the wireless network that linked them. As the 30 or so traders pecked away tensely on their laptop computers, sighs and nervous giggles signaled the gyrating value of their portfolios.

Except for its unusually informal setting, this recent exercise looked like the kind of simulated trading of stocks or bonds that is routine in the finance curriculum at many business schools.

But this was a marketing class conducted by Ely Dahan, a professor at M.I.T.'s Sloan School of Business. The students were not trading securities but the traits of various goods and services, like automobiles and ski resorts. The exercise was part of an effort by Professor Dahan and colleagues at M.I.T. to prove that simulated trading could answer that most basic of all product development questions: What do consumers want?

One session here traded "stocks" representing the Pontiac Aztek, Acura MDX and other rivals in the new market segment that melds sport utility vehicles, minivans and cars. The students also traded the characteristics of ski resorts — whether skiers could drive to the resort or had to fly to it, for example, and whether it had crowded slopes. Other sessions focused on designs for laptop-computer carrying cases and variations on hand-held digital assistants.

In as little as 20 minutes, the students arrived at fairly stable rankings of the relative worth of what they were trading. More intriguingly, as was driven home by interviews with skiers nearby at Mount Killington, the relative values arrived at



MIT Sloan MBA's trade concepts in Professor Dahan's mock stock market in VT

through the trading closely paralleled consumer preferences divined much more laboriously through traditional field research.

"It's amazing that you can get effective results in areas where people don't know that much," said Jay Livens, an M.I.T. student, after Professor Dahan showed the outcomes of their vehicle trading.

The closing prices were generally consistent both with consumer sentiments culled from more traditional market research and with previous trading experiments conducted at M.I.T. In just minutes, for example, the trading showed disappointment with the Aztek and enthusiasm for the MDX in proportions similar to those of car buyers over the last year. "General Motors (news/quote) might have been able to save itself a lot of pain if it had run trading like this a couple of years ago," Professor Dahan said.

To participants, market research had never seemed so much fun — or cool.

"I feel like we are at the genesis of a potentially great idea," said Kristina Larson, a first-year student.

In real markets, the value that buyers place on goods — reflected in prices — is established as a byproduct of the exchange of goods. In Professor Dahan's markets, buyers' opinions are the whole point of the exercise. If the operations of regular markets are like fishing for food, then Professor Dahan is fishing to collect data from the fish about pollution levels in the ocean.

Professor Dahan's research was inspired by the earlier successes of several Internet-based trading exchanges that have been called "decision markets" by Robin Hanson, an economics professor at George Mason University. The most renowned one, the Iowa Electronic Markets, has often outperformed pollsters in predicting election results. The market, operated by the Henry B. Tippie College of Business at the University of Iowa, permits investors
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to buy and sell shares in a candidate, based either on how much of the vote they expect the candidate to receive or simply on whether the candidate will win or lose. Under a special clearance from the Securities and Exchange Commission, the market accepts investments of up to \$500, giving participants an incentive to invest seriously without running afoul of laws that ban gambling.

Another virtual market, the Hollywood Stock Exchange (www.hsx.com), has become one of the movie industry's most trusted predictors of how new films will perform at the box office. The exchange has more than 850,000 registered members. After completing the free registration form, traders get two million "Hollywood dollars." They base their "investments" on how they expect a film to perform in its first four weeks at the box office, months before the film even opens. Each Hollywood dollar equals \$1 million of film revenue.

If a film is trading based on expectations that it will gross \$80 million in its first four weeks, investors who think it will reach \$100 million buy shares. Those who anticipate weaker results sell.

The Hollywood Stock Exchange, owned by a British subsidiary of Cantor Fitzgerald, the Wall Street firm, sells data about the trading to entertainment companies.

Several companies have experimented internally with similar trading programs. The most successful reported experiment, Professor Hanson said, was at Hewlett-Packard (news/quote). Predictions of Unix workstation sales, derived from trading shares in different projections by Hewlett-Packard sales managers, repeatedly proved more accurate than official estimates by the unit's marketing group. The trading apparently filtered out the tendency of

sales executives to be optimistic in their projections to superiors.

Professor Dahan is trying to forecast the appeal of competing packages of product features, some of which may never exist other than as ideas. Such trading cannot be measured against a real outcome, as in an election. But the trading of product attributes may help a business pick the most popular combinations of features early in the design process.

Trading contests may also help a company find consumers who are especially knowledgeable about its business — or one in which the company wants to expand. Such consumers, called lead users, are prized in the product development world.

Professor Dahan's main goal is to permit product developers to do research that is fast, easily modified and ultimately much more thorough. The technique now viewed as the best, a polling practice called conjoint analysis, was developed in the late 1960's. Marriott used it to design its Courtyard by Marriott chain (the slogan: designed by business travelers for business travelers).

But conjoint analysis for more than a few attributes is unwieldy because the possible combinations quickly mushroom to unmanageable numbers. That is a big shortcoming in a world where many products have more than 100 distinguishable features that might influence consumers, Professor Dahan said.

In theory, trading can establish simultaneous values for scores or even hundreds of product attributes — just as it does each day for thousands of publicly listed stocks. That assumes that large groups of people are willing to trade for fun or for modest rewards.

Professor Dahan, 44, had his attention drawn to stock trading by two M.I.T. colleagues, **Tomaso Poggio**, a neuroscientist, and **Andrew Lo**, a finance expert. They suggested that he apply

related research in which they had been involved to M.I.T.'s Virtual Customer Initiative, which seeks ways to use the Internet and other tools to speed product development. Despite the intriguing results, Professor Dahan remains a cautious champion.

"I think businesses will be trading these stocks like crazy in the future, but this is just a complement to other techniques," Professor Dahan added. "It would be heresy among marketing academics to say we no longer need to measure individual preferences. Trading doesn't reflect them."

PROFESSOR DAHAN said research suggested that in 38 percent of the trades, sellers like the specific products or features more than the buyer. Presumably, the sellers unload the stock because they think the price will fall.

How often game traders will behave as normal financial investors, however, is one of many areas about which little is known. Other questions involve what rewards are needed to keep enough traders playing and how to determine winners.

Professor Hanson says he thinks the biggest hurdles to the spread of research-driven trading in business may be cultural. Companies continuously make investments based on assumptions about the future that are, in essence, bets. But stock trading is so obviously speculative that many of them may be reluctant to be seen using a form of it as a data source for important decisions.