

Gordon Bell unveils model for emerging technologies:

How to predict a high-tech start-up's success

From Silicon Valley to Atlanta, Austin to Route 128, promising new high-tech start-ups spring forth every day. Which will be a hit? Which will miss?

There's no shortage of opinions. Everyone even remotely involved has an opinion, based on intuition, hard data, and hearsay. But industry veteran Gordon Bell has a scientific model.

Bell—who led DEC's VAX development, founded Encore Computer, and is now Ardent Computer's vice president of R&D—unveiled his model, Aug. 10, to the 136 senior executives attending the 14th annual AEA/Stanford Executive Institute at Stanford University.

Rules for risk

Bell says his model aims to provide a framework that demystifies and improves the start-up process.

"Start-ups are enormously fragile," notes Bell. "They're subject to economic changes and venture capitalists' whims about what's in vogue. And at any point in the

company's development, you can ask yourself, 'What can go wrong?' The answer is always 'a lot'."

Bell will publish his model—a matrix of evolutionary states, heuristics and 12 hierarchical dimensions—in an upcoming book. The model applies exclusively to "high information-technology start-ups in emerging markets, or 'HITSUEMS.' It doesn't cover 'the next' IBM PC, 3-1/4 inch disk, spread sheet, wordprocessor, etc.," he notes.

The model assigns basic heuristics to each of the 12 dimensions, which are weighted differently at different stages of the start-up's development. Some of the dimensions, and Bell's comments on them:

- **Technology and engineering:** "Unfortunately, when one engineer develops a new chip and decides to make a computer around it, 100 other engineers have the same idea at the same time and go out looking to start a company too."
- **Product characteristics:** "If a product is really good, even if the marketing is terrible, customers

will find out about it and want it."

- **Business plan:** "The plan must be 30-40 pages, not just 3-4 pages with pounds of marketing bull added on."
- **Cash:** "As [Seagate CEO] Al Shugart says, 'Cash is more important than your mother'."
- **Financeability:** "Japanese investors have more stamina and patience, so they'll keep their money on you. But the impact on technology transfer is frightening."
- **People:** "Watch out for team members who have been in multiple start-ups that failed. Sure they know what not to do, but can they do what's right? Or will they just discover more things not to do?"
- **CEO:** "Sometimes I think the way some companies run is the result of the failure of AI to replace CEOs."
- **Team and its coherence:** "The founders must be 'do' oriented. Hiring someone from a large company is sure death—they don't know how to do anything except delegate."

Computer guy's code

Ever the "computer guy," Bell says that HITSUEMS execute from two lines of code:

- "If the founders' frustration > the rewards of their current job, and
- if their greed > their fear of entrepreneurial risk."

He warns start-ups, "When you go IPO, that's the living dead. The greed motivator dies."

In concluding his address, Bell also cautioned against developing large engineering organizations. "They're dangerous. They're too creative, dynamic and fluid to get focused on one goal and achieve it."

Business course

Bell was one of 17 faculty and



■ **FOX IN THE HEN HOUSE:** Championing the value of risk-taking and entrepreneurship, Gordon Bell tells electronics executives, "Business schools are the number one killer of American competitiveness." Bell made the statement at the recent "mini-MBA" program, the AEA/Stanford Executive Institute at Stanford University.

week AEA/Stanford Executive Institute. Called a "mini-MBA" program by participants, the program draws senior-level electronics executives to the Stanford University campus for two weeks to renew and refine their management strategies.

Exchanging ideas with their peers and learning in a case-study classroom setting, participants develop their skills in:

- Marketing
- Management accounting
- Operations management
- Organizational management
- Finance
- Technology management
- Corporate strategy

The next AEA/Stanford Executive Institute will be held Aug. 16-18, 1989.

For registration information, call Mary Horngren Frost at AEA,