

Invention-Driven Marketing

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William E. Carlson
Intermetrics, Inc.
Cambridge, MA 02138

Suppose you have just created a revolutionary bicycle suspension which allows a bike to be ridden over rough terrain at 60 miles per hour. In addition, suppose that you are deeply concerned about the plight of hungry children. Which should you do:

- a. Be sure all hungry children have bicycles?**
- b. Transfer the technology for your new suspension to bicycle manufacturers worldwide?**
- c. Start a company to supply premium sports bicycle based on your patented technology, and donate the profits to a charity which feeds hungry children?**

Woven through this somewhat trivial example is the paradox of technology transfer - the supplier (owner) may want to transfer technology; but to succeed, he or she must reformulate the problem as a user need for which there is a new and better solution.

Successful technology transfer is little more than good marketing applied to an existing invention, process, or capability. You must identify who needs the technology, why they need it, why the new technology is better than alternatives, how much the customers are willing and able to pay for these benefits, and how to distribute products based on the technology to the target customers.

In market-driven development, the term "technology transfer" is rarely used. The developers focus on studying user needs and designing solutions. They may have technology needs, but they don't have technology in search of a use.

Technology transfer is really a process for exploiting serendipity. Any time you do an experiment, there is the potential for a surprising and valuable result which holds widespread applicability outside the domain that originally motivated the experiment. Any time you build a large system, there will be hundreds of small inventions; and each of them may have broad applicability.

Some managers dislike the unexpected and unplanned. Nonetheless, certain inventions in search of a market have proven too valuable to ignore: velcro, xerography, electronic mail, personal computers. Many of the inventions that have revolutionized our lives were created by technologists, driven to push the limits of the possible. Why does someone climb a mountain? Because it's there. Great inventions are often created for the same reason; but achieving global impact requires effective marketing of the new invention. Hence, I prefer the phrase "Invention Driven Marketing" to "Technology Transfer".

This panel deals with technology for technology transfer. As is apparent from the above discussion, I view marketing of a new invention as a social process. The challenges are human and institutional, rather than technological. Nonetheless, innovative information technology can facilitate the human interactions and institutional changes which must occur. Several examples will be presented to stimulate questions and comments from the audience.

Keywords: Language, Design, Programmer Productivity Tools, Digital Signal Processing, System Simulation, Network Security, Guidance, Navigation, and Control, Information Systems Integration.

Invention-Driven Marketing:
An Approach to Technology for
Technology Transfer

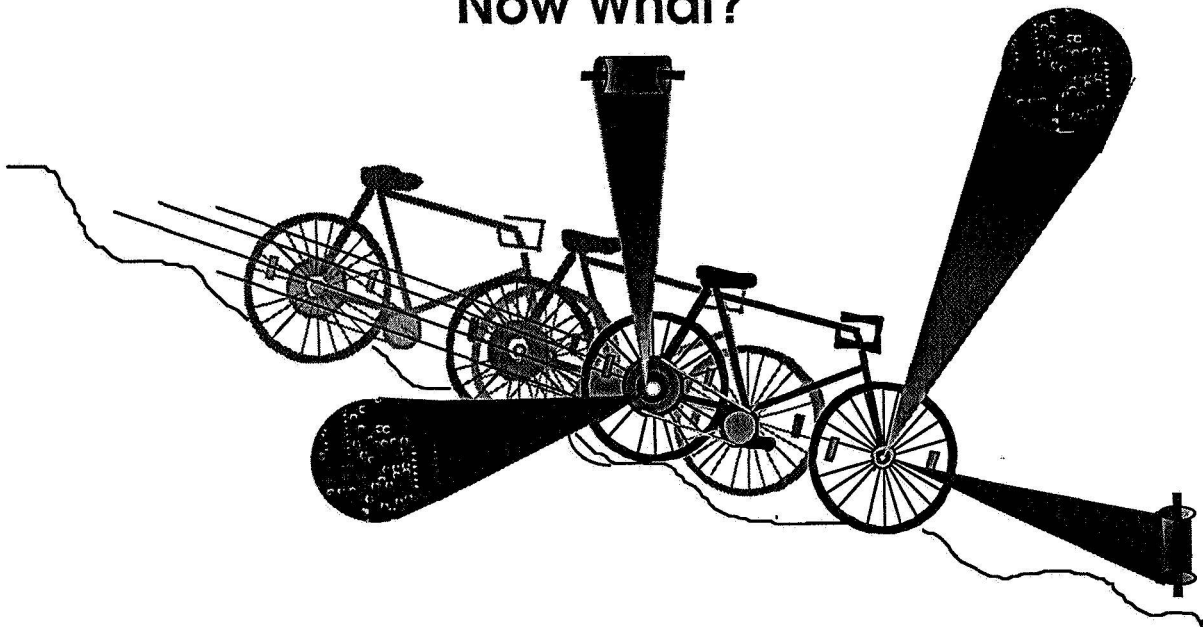
William E. Carlson
Chief Technology Officer
Intermetrics, Inc.

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HERE'S THE TECHNOLOGY;
Now What?



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SOME OPTIONS If Driven to Help Hungry Children

- Be Sure All Hungry Children Have Bicycles
- Transfer the Technology for the New Suspension to Bicycle Manufacturers Worldwide
- Start a Company
 - Premium sports bicycles
 - Patented technology
 - Donate profits to charity which feeds hungry children



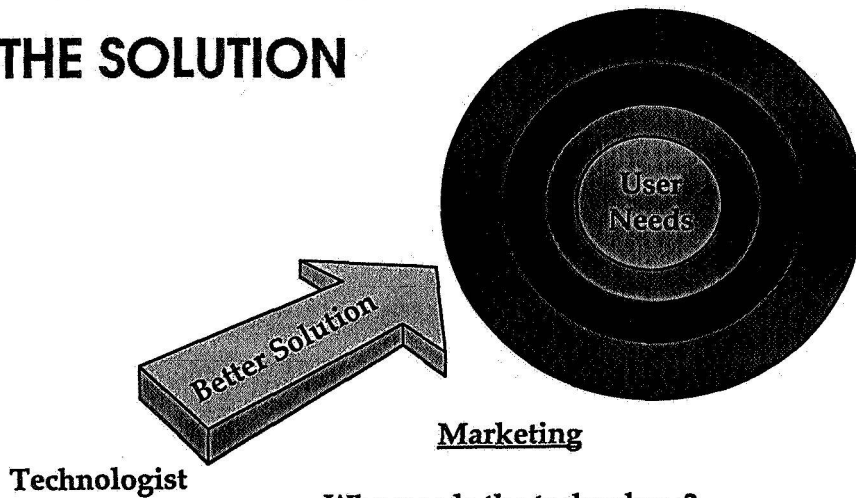
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THE TECHNOLOGY TRANSFER GAP



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THE SOLUTION



Who needs the technology?
Why they need it?
Alternatives?
How much can they/will they pay for the benefits?
Cost effective distribution?



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WHY TECHNOLOGY TRANSFER

- Serendipity
 - Surprising and valuable results of an experiment
 - Applicability outside planned domain
 - Small inventions on path to big system

- Marketing to Exploit an Existing Invention Vs. Inventing to Satisfy an Identified Market Need



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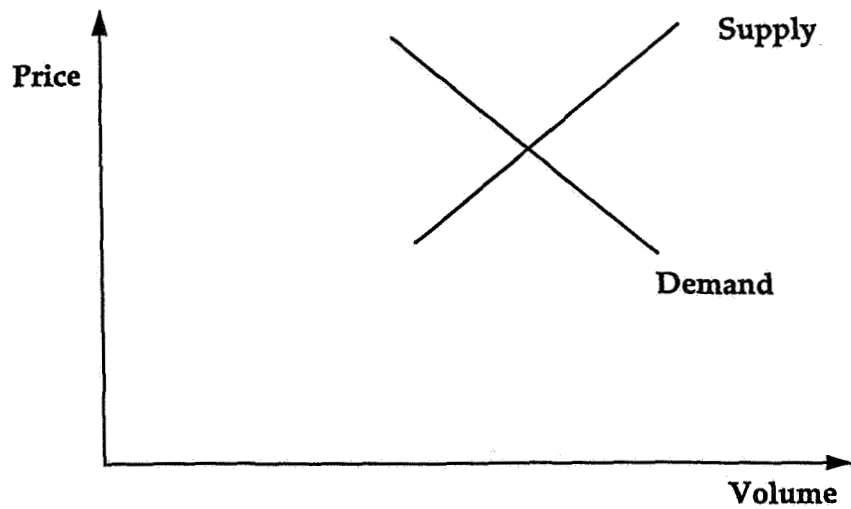
ECONOMIES OF SCALE AND THE LEARNING CURVE

- Conventional Supply-Demand Curve
- Demand for High Tech Goods
- Supply of High Tech Goods



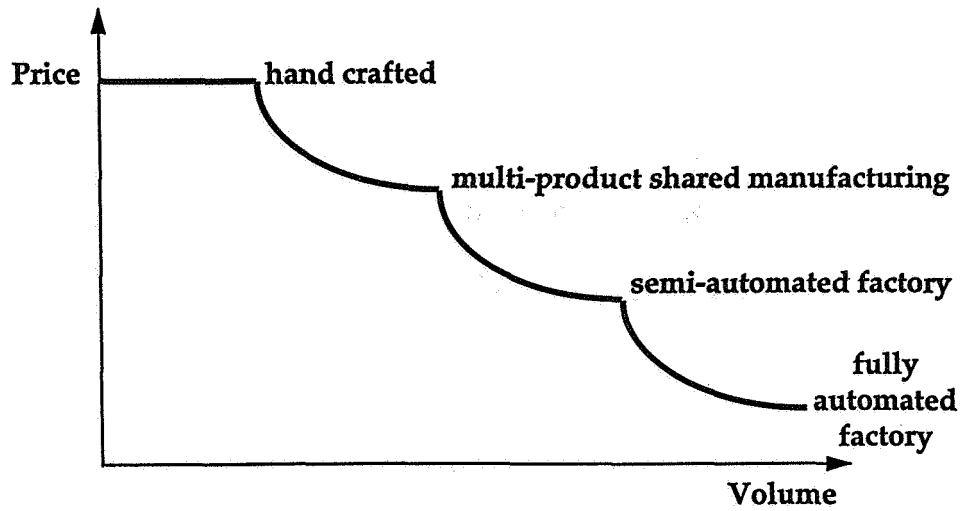
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CONVENTIONAL SUPPLY-DEMAND CURVE



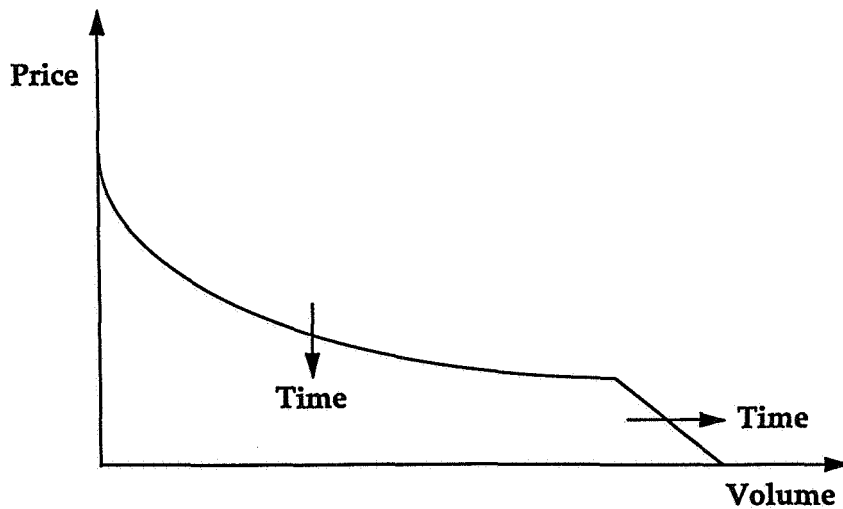
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SUPPLY OF HIGH TECH GOODS



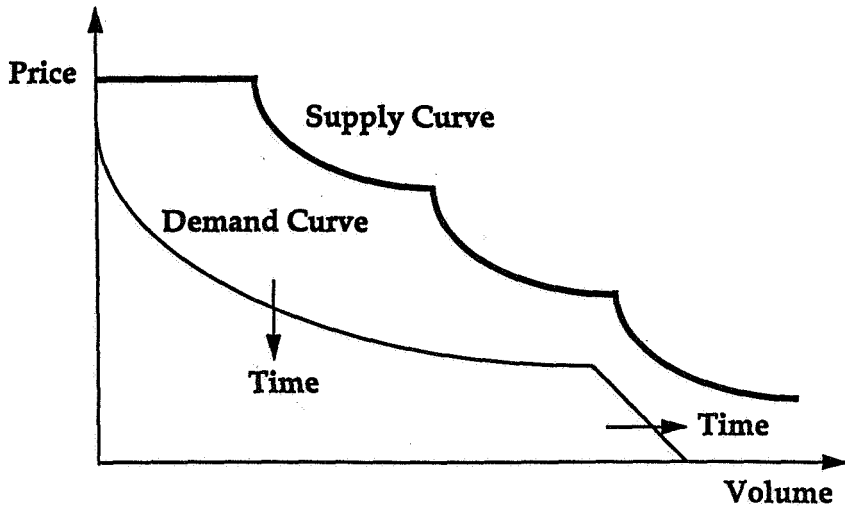
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DEMAND FOR HIGH TECH GOODS



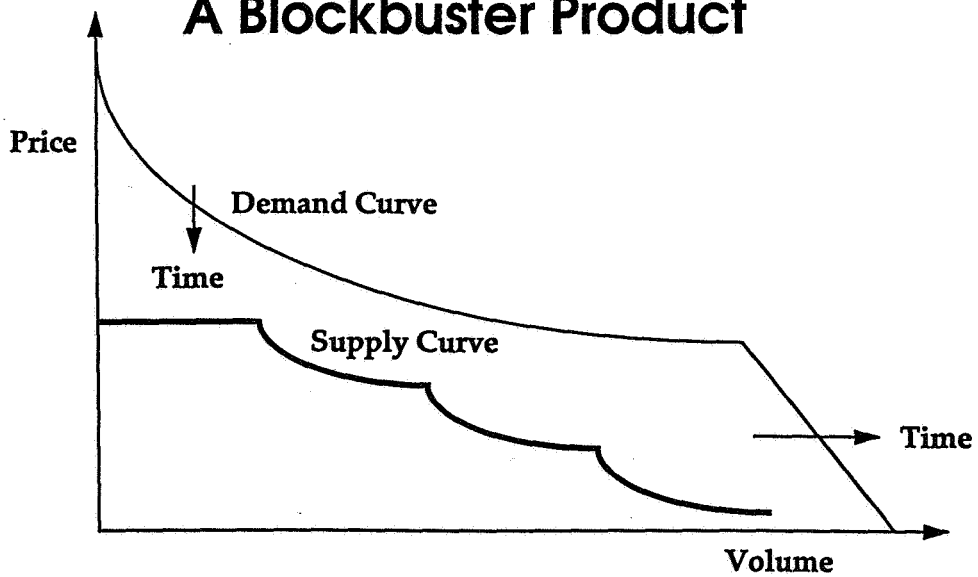
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MARKET FOR HIGH TECH GOODS An Uncompetitive Product



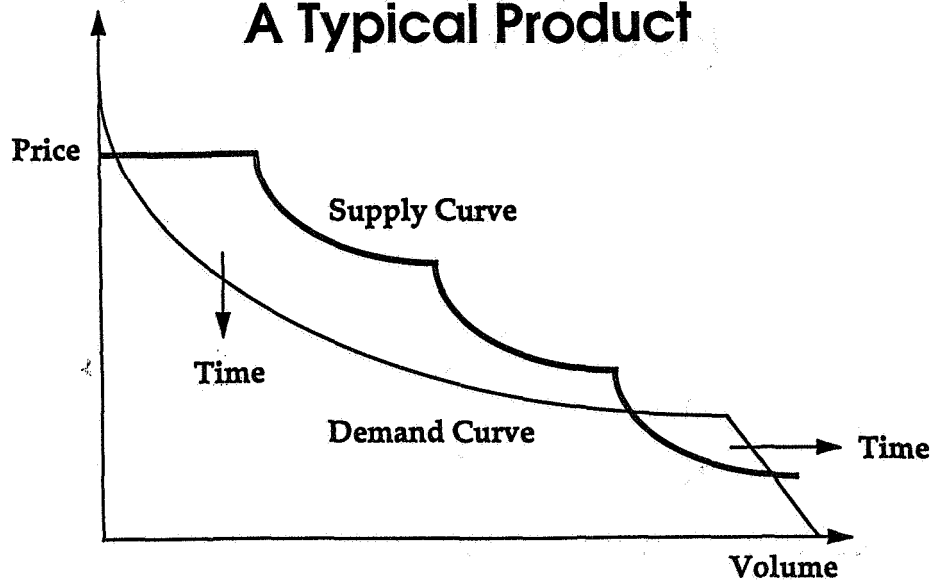
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MARKET FOR HIGH TECH GOODS A Blockbuster Product



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MARKET FOR HIGH TECH GOODS A Typical Product



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SOME TECHNOLOGIES FOR TECHNOLOGY TRANSFER

- Flexible Factories
 - Lower manufacturing costs for small volumes
- Information Retrieval
 - Lower cost of market research
- Groupware
 - Better market research
- Multi-Media Catalogs
 - Lower cost of educating the market



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SUMMARY

- Invention Driven Marketing**
- Human and Institutional Barriers**
- Marketing is a Social Process**
- Benefits From Improved Information Interchange**



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