Cultivating Innovation in Industry

Dr. Tommy Gardner, Chief Technology Officer March 13, 2014



INNOVATION



- What is Innovation?
- Different Types of Innovation:
 - Product and Process Innovation
 - Incremental vs. Radical Innovation
- The Mind Set of Innovation
 - Humans: Why They Triumphed
- Creative Destruction
- Assigned Reading

Definition



Motivation = the stuff that permeates your entire being, when you have a clear, vivid picture in your mind of what you want and an intense burning all consuming desire in your heart to fight for it.

Innovation = ?

An innovation is one of those things that society looks at and says, if we make this part of the way we live and work, it will change the way we live and work.

Dean Kamen

Wiki Definition



Innovation is a change in the thought process for doing something, or the useful application of new inventions or discoveries. It may refer to an incremental emergent or radical and revolutionary changes in thinking, products, processes, or organizations. Following Schumpeter (1934), contributors to the scholarly literature on innovation typically distinguish between invention, an idea made manifest, and innovation, ideas applied successfully in practice.

Innovation = an invention that is enabled in the marketplace creating economic value

Different Types of Innovations



Steam Relief Valve – Labor Saving Device

Pilkington Glass – Cost Saving Device

Bessemer Steel Plants – Better Properties

Cotton Gin – Labor Savings

Interchangeable Parts – Reducing Variance

Gunfire at Sea – New ways to solve old problems

FedEx

Humans: Why They Triumphed



How did one ape 45,000 years ago happen to turn into a planet dominator? The answer lies in an epochal collision of creativity.

By Matt Ridley WSJ May 22, 2010

The answer lies in a new idea, borrowed from economics, known as collective intelligence: the notion that what determines the inventiveness and rate of cultural change of a population is the amount of interaction between individuals.

The notion that exchange stimulated innovation by bringing together different ideas has a close parallel in biological evolution.

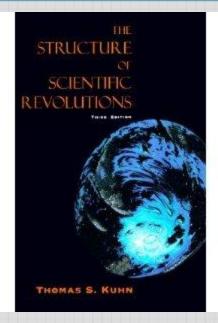
Creative Destruction



Joseph Schumpeter's concept of Creative Destruction describes how a new concept or idea or company replaces the old guard.

Potential Books to Read





Glass Makers: Henry Crimmel, John M. Whitall, Richard M. **Atwater, S. Donald** Stookey, Henry Clay Fry, **Otto Schott, David Yuile**

Books LLC

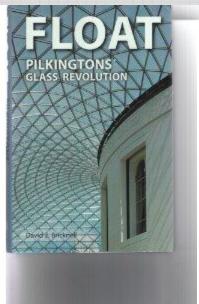
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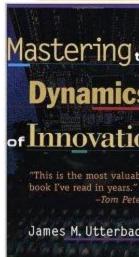
DAVA SOBEL

Galileo's

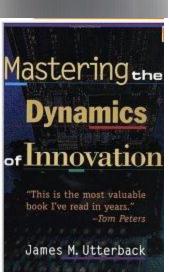
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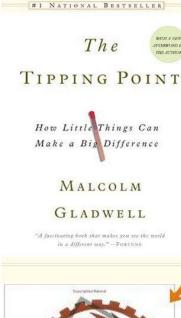
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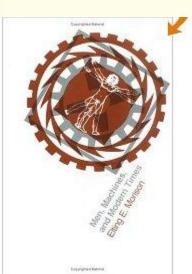












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