

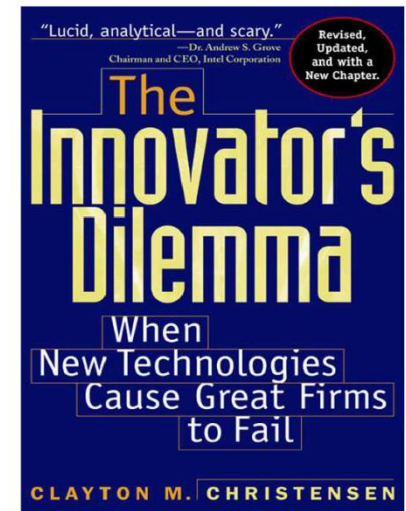
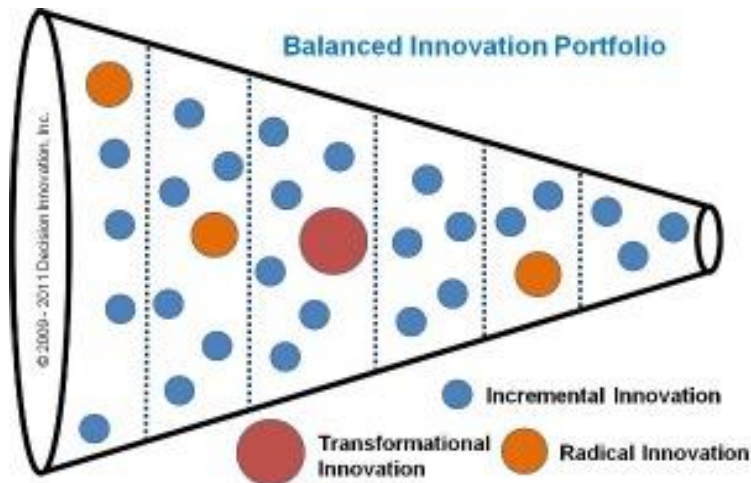
The Innovator's Dilemma

Evolutionary / Revolutionary / Disruptive Innovation



Innovation Types

- Evolutionary (Sustained Incremental)
 - Adds new value to markets - in expected ways
- Revolutionary (Sustained Radical)
 - Adds new value to markets - in unexpected ways
- Disruptive (Transformational)
 - Creates new markets – which overtake old ones



Disruptive Innovations (examples)

- IT examples:
 - [Floppy disk](#) -> [Zip drives](#) -> [USB flash drives](#)
 - [Mainframes](#) -> [Minicomputers](#) -> [PCs](#) -> [Handheld computing](#)
 - [Telegraphy](#) -> [Fixed phones](#) -> [Mobile phones](#) -> [Smart Phones](#)
- Non-IT examples:

Established Technology	Disrupting Technology
High street retailing	Online retailing
Sailing ships	SteamBoats
Rail transport	Automobiles
Printed encyclopedias	Wikipedia
Postal mail	Email
Circuit networks	Packet networks
Taxis	Uber

Famous Quotes

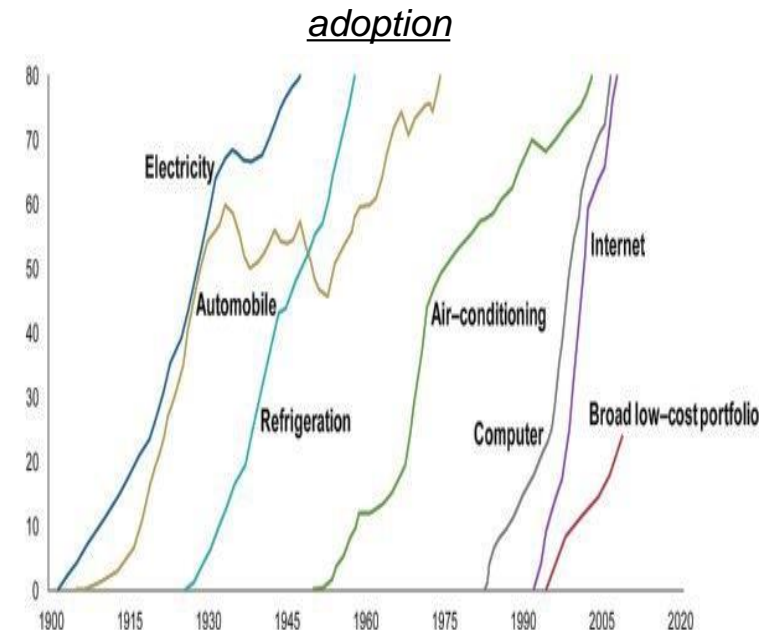
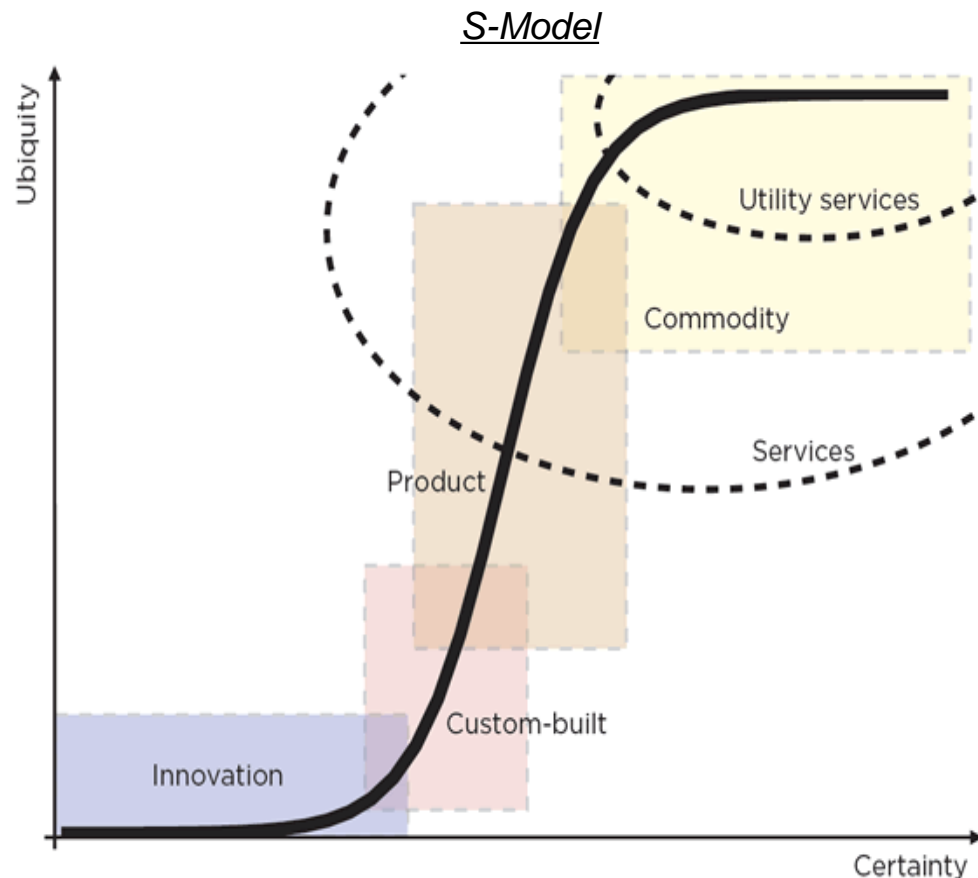
- Computers: "I think there is a world market for maybe 5 computers."
 - Thomas Watson, chairman of IBM, on seeing the first mainframe computer in 1943.
- Xerox: "World potential market for copying machines is 5000 at most"
 - IBM, to the eventual founders of Xerox, saying the photocopier had no market large enough to justify production, 1959.
- Telephones: "The Americans have need of the telephone, but we do not. We have plenty of messenger boys."
 - Sir William Preece, Chief Engineer, British Post Office, 1878.
- Mobile phones: "There will be 10 million mobile phone users in 2000 at maximum, predominantly used in cars"
 - McKinsey advice to AT&T which lead them not to further invest in their mobile invention, 1990.
- Digital photography: "Why would we change a winning formula?"
 - Attributed board discussion at Polaroid about the need to invest in digital photography, 1999.
- Trains: "No one will pay good money to get from A to B in one hour by train, when he can ride his horse in one day for free."
 - King William I of Prussia, on hearing of the invention of trains, 1864.

Technology Adoption Curve



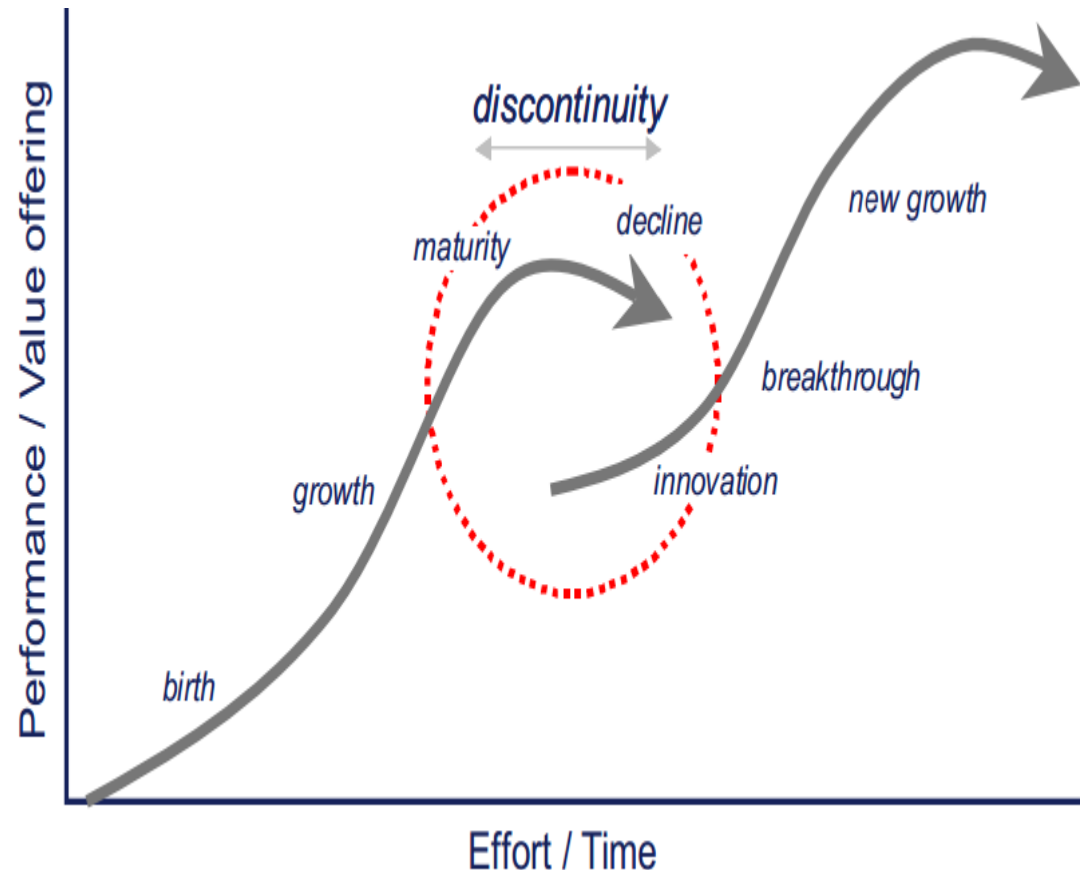
Innovation Adoption

- POC -> Prototype -> Pilot -> Products -> Mass production
- As technology matures, users accumulate in a “S”-curve



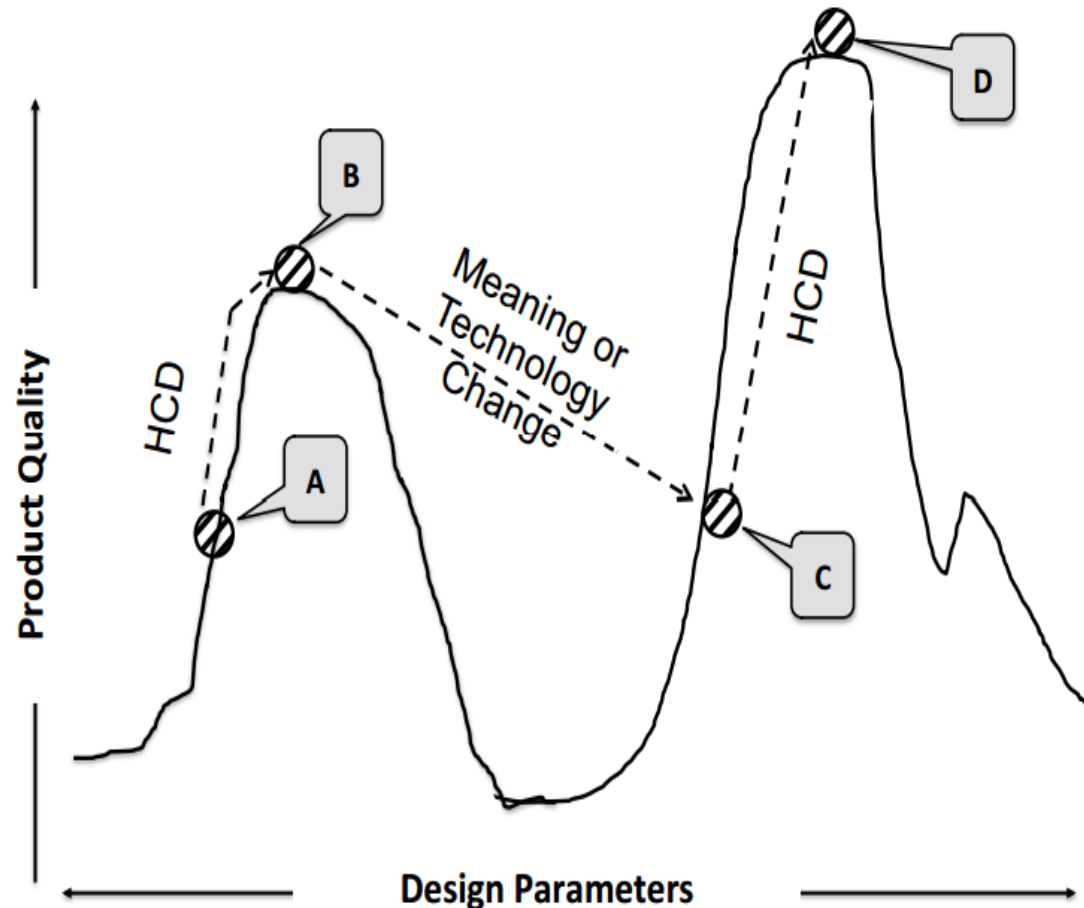
Innovation Jump

- At first, fresh technologies may offer less overall value...
- ... but they have **much** higher upside potential!



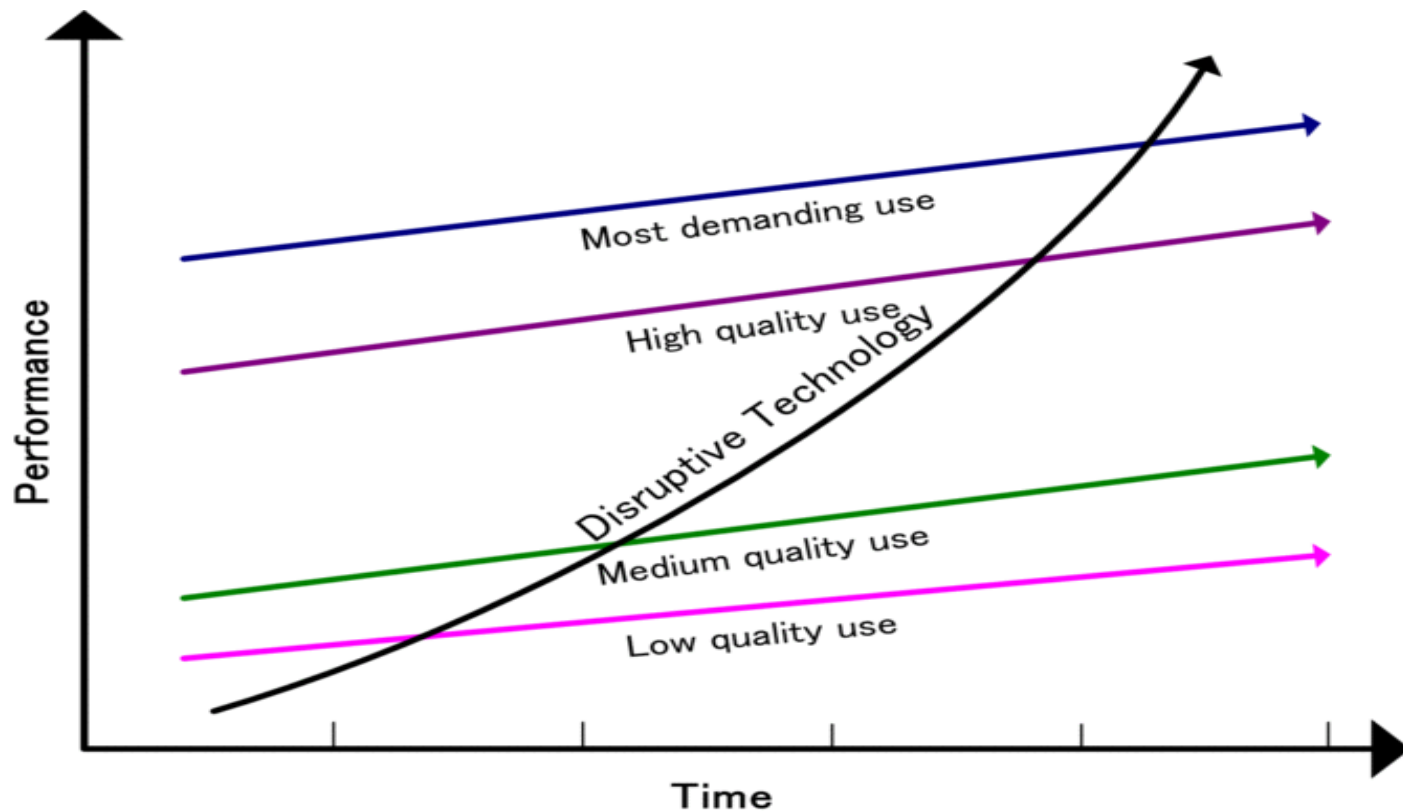
Hill climbing Problem

- Congratulations, you have found your local maxima ...
- ... but are you willing to do the leap of faith for even higher ones?

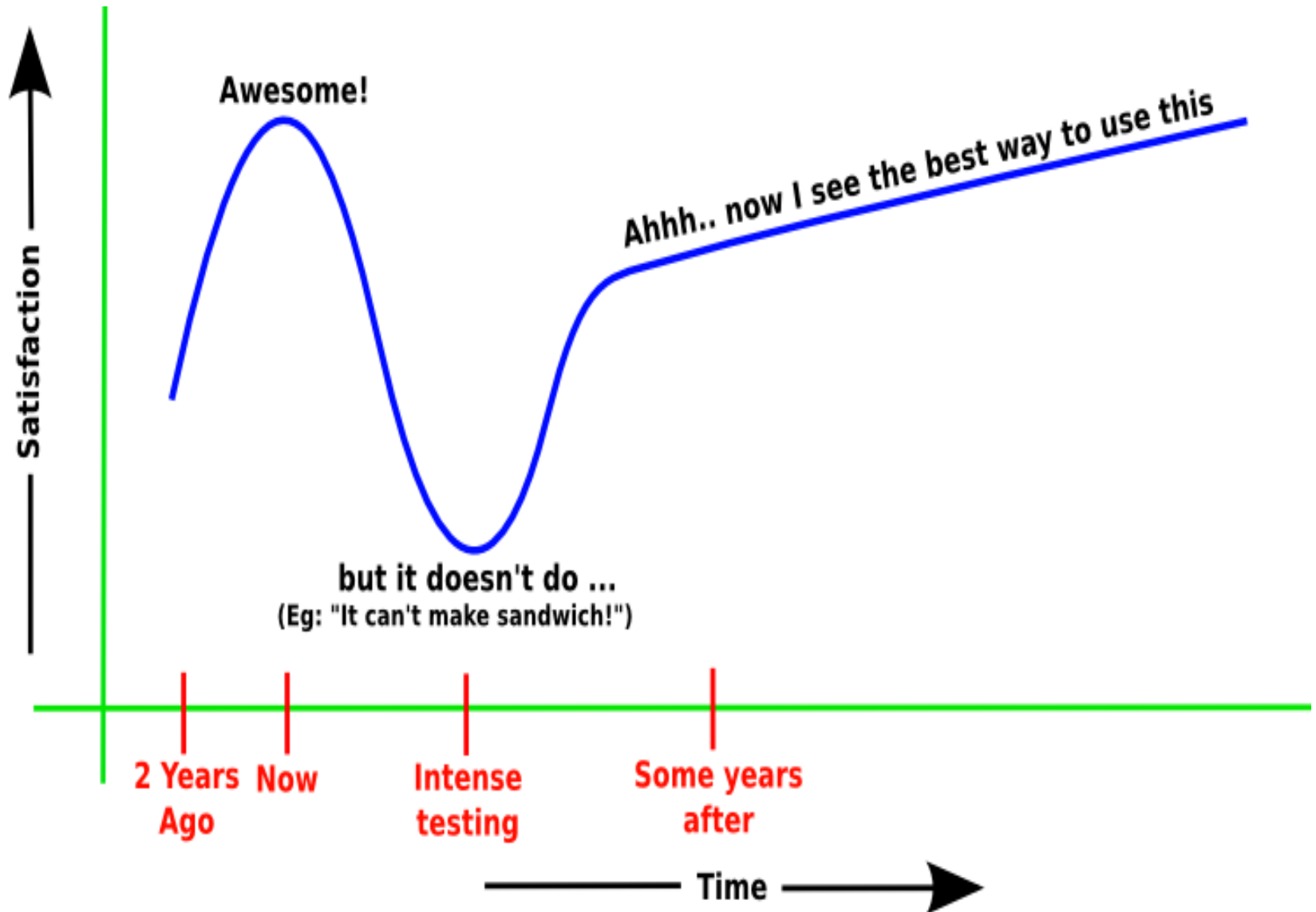


Supply and Demand dynamics

- A disruptive technology gains new customers...
- ... because it targets first the least demanding customers



Innovation hype cycle



Breakthrough Process

