

Emerging IT Scenarios: Hype versus Reality

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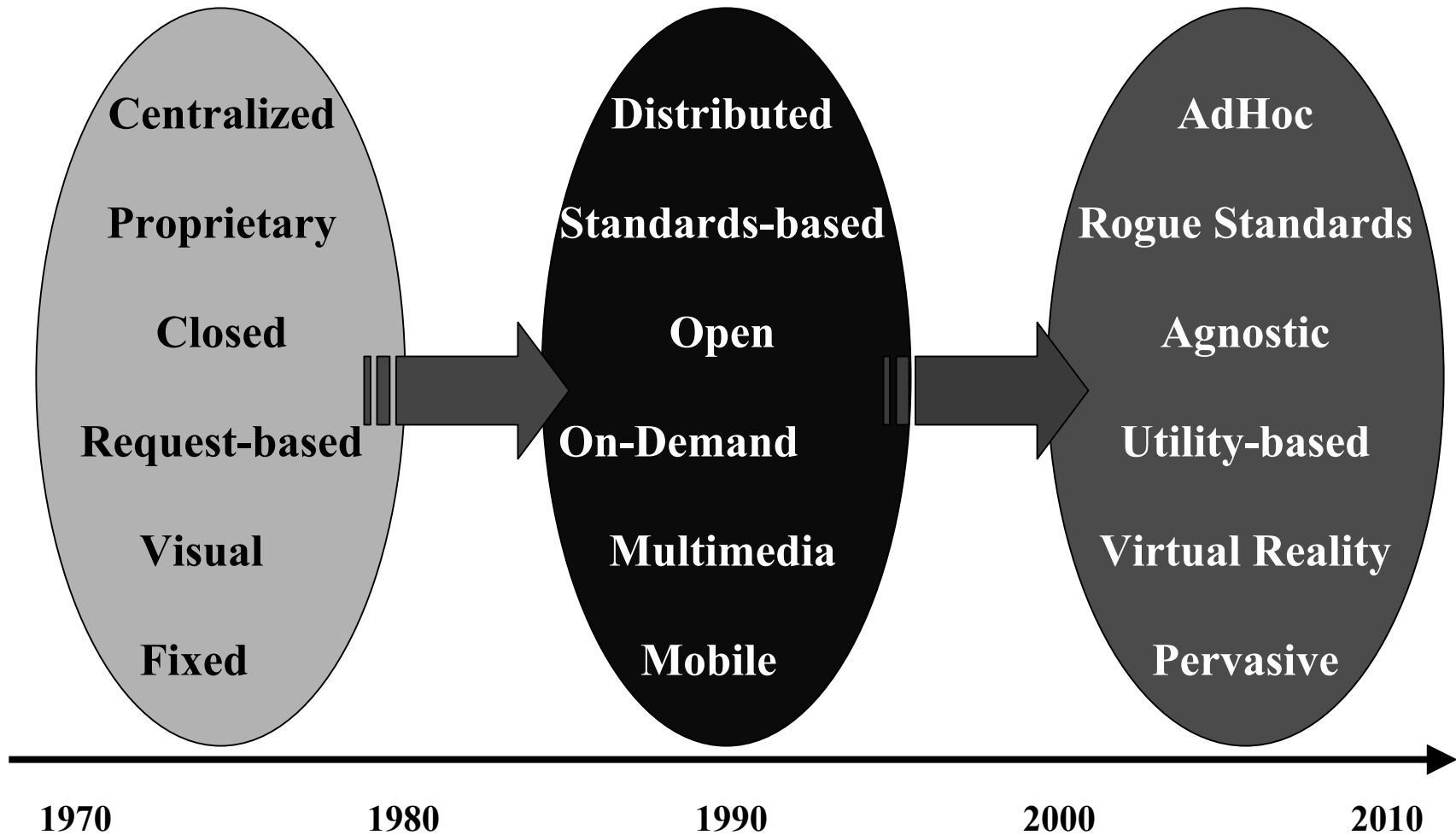
Decision Strategies International

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Topics

- IT Paradigms
- Hype-driven Diffusion
- Examples
- Emerging IT Scorecard
- Observations
- Emerging IT Scenarios

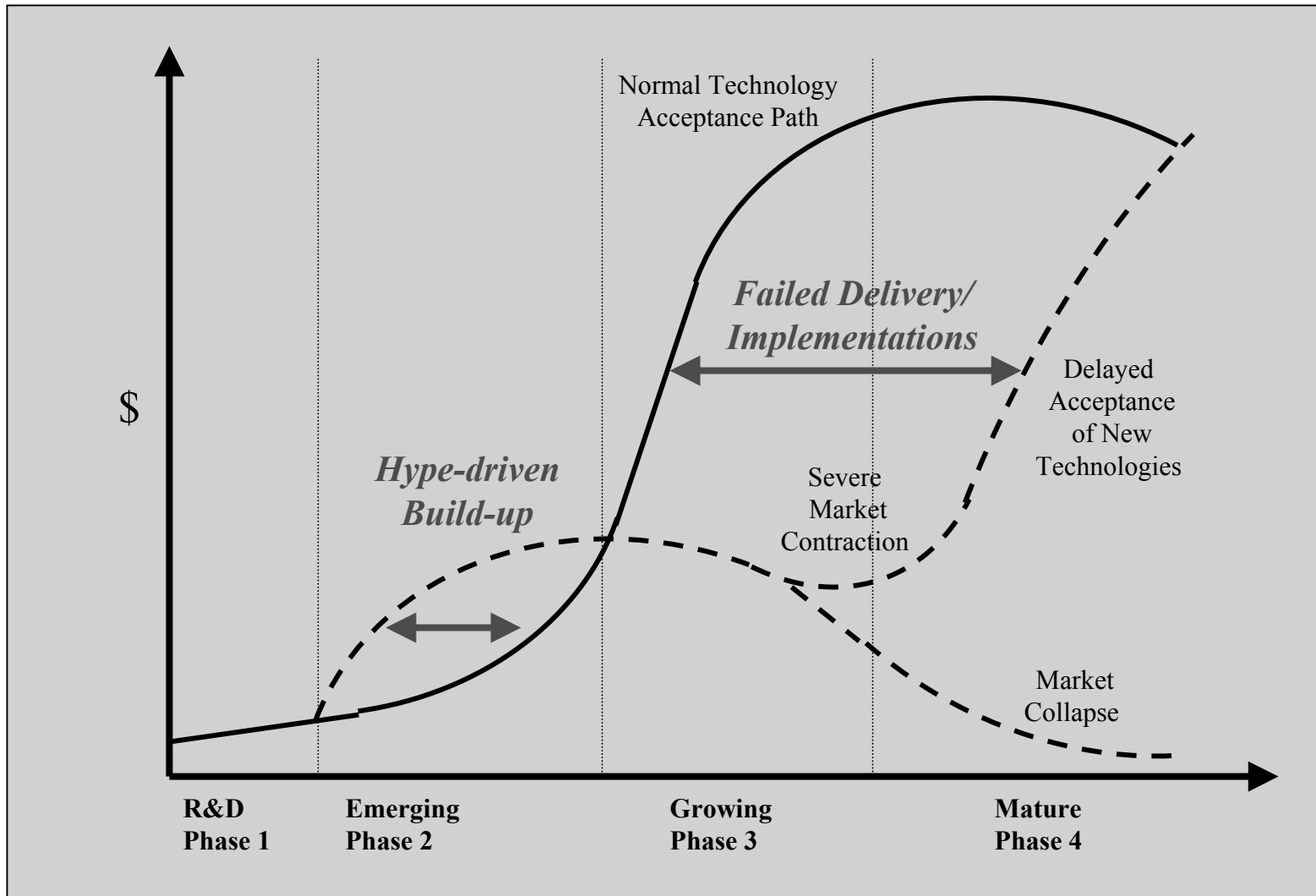
IT: Changing Paradigms



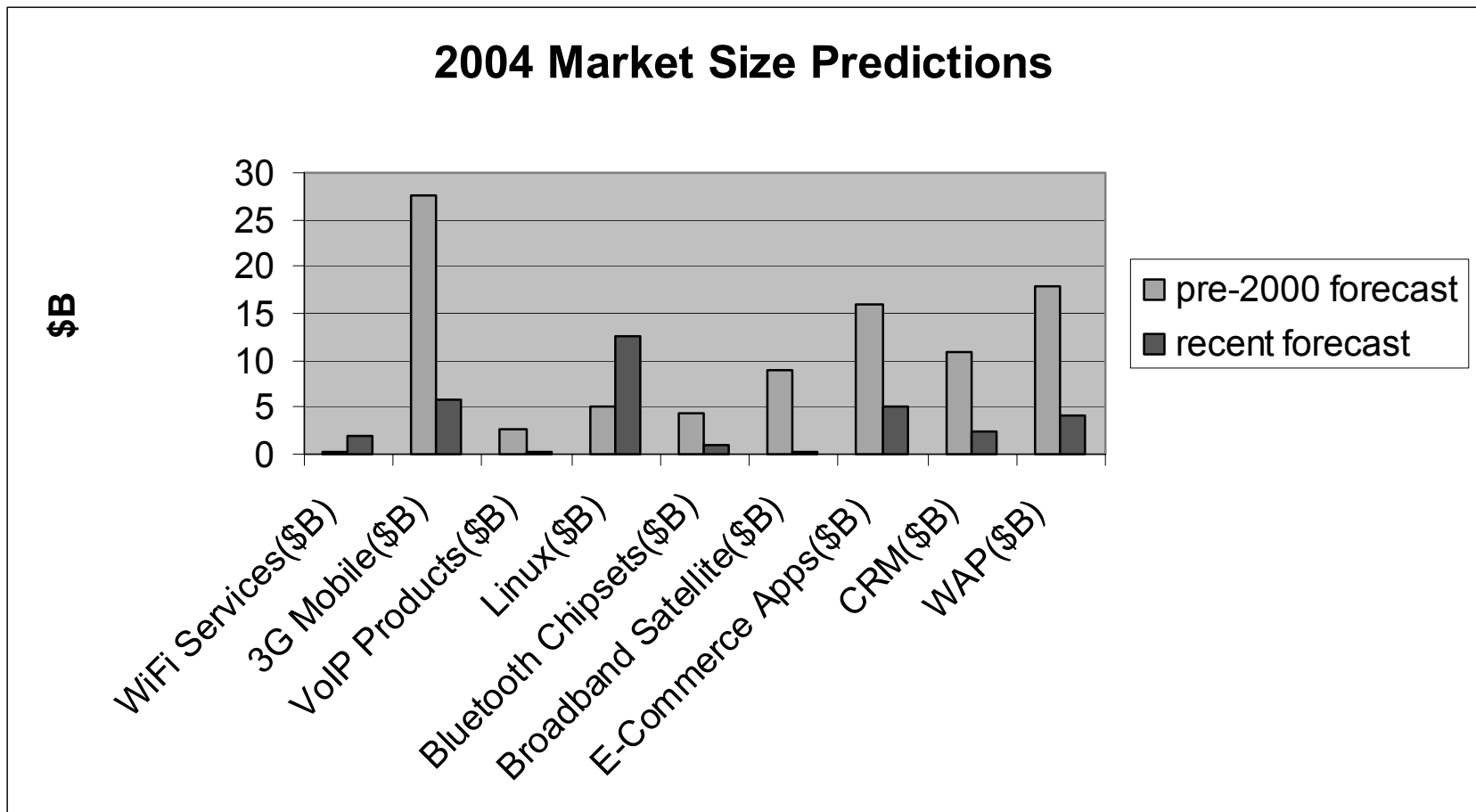
“If you’re not scared, you
just don’t understand”

Mike O’Dell – Chief Scientist UUNet

Hype-driven Technology Diffusion



Emerging IT - Then and Now



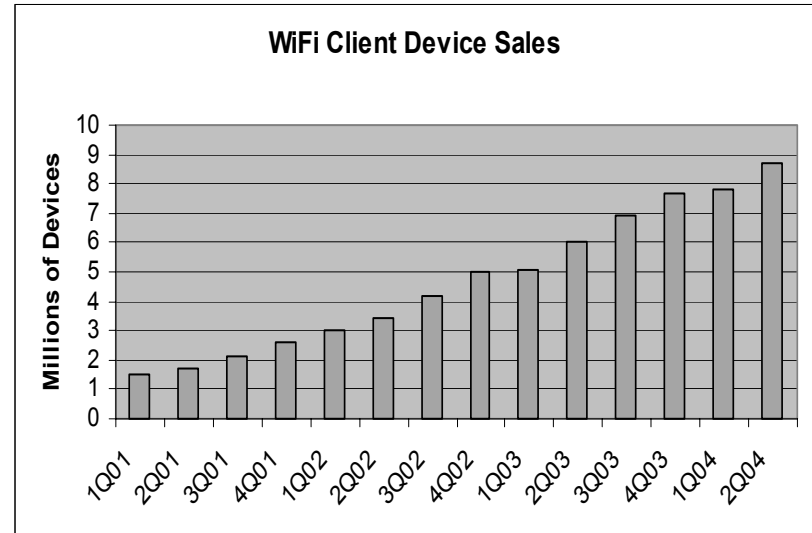
“The future ain’t what it used to be.” – Yogi Berra

CRM – Over-hyped Example

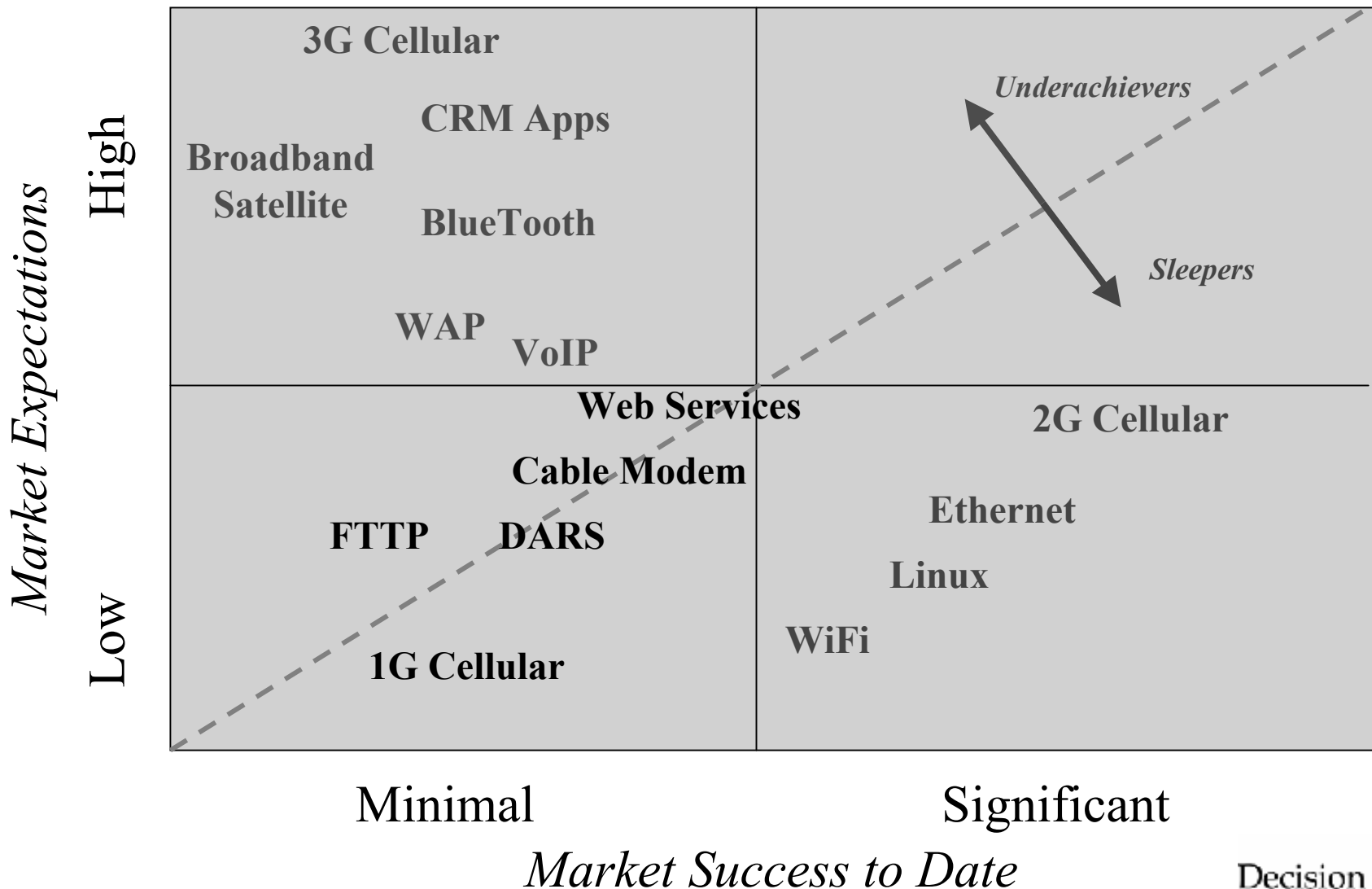
- CRM productized by Vantive in the early 90's
- Other major vendors entered/emerged
 - Oracle, Siebel, SAP, E.piphany, Peoplesoft
- Experienced enormous growth
 - \$6.2B market size in 2000
- Failed to deliver on big ROI promises
 - Over 50% of CRM implementations viewed as failures (Gartner – September 2001)
 - Infrastructure and data sources not real-time capable
 - Little productivity gain for one-size-fits-all platform versus home-grown, custom solutions
- ASP Model has emerged as disruptive threat
 - Salesforce.com
 - Did not require big bet on a single platform

WiFi – Under-hyped example

- 2M+ WiFi Devices sold each month
 - \$2.6B+ equipment market
- Major threat to 3G and Bluetooth
- Disruptive economics
 - 0.2 cents/MB vs. >3 cents/MB for 3G
- Major carriers buying-in defensively
- WiFi service business still not profitable, but grabbing market share (10%+ of 3G market)
- Now UWB looms as disruptive threat to take out WiFi



Emerging IT Scorecard



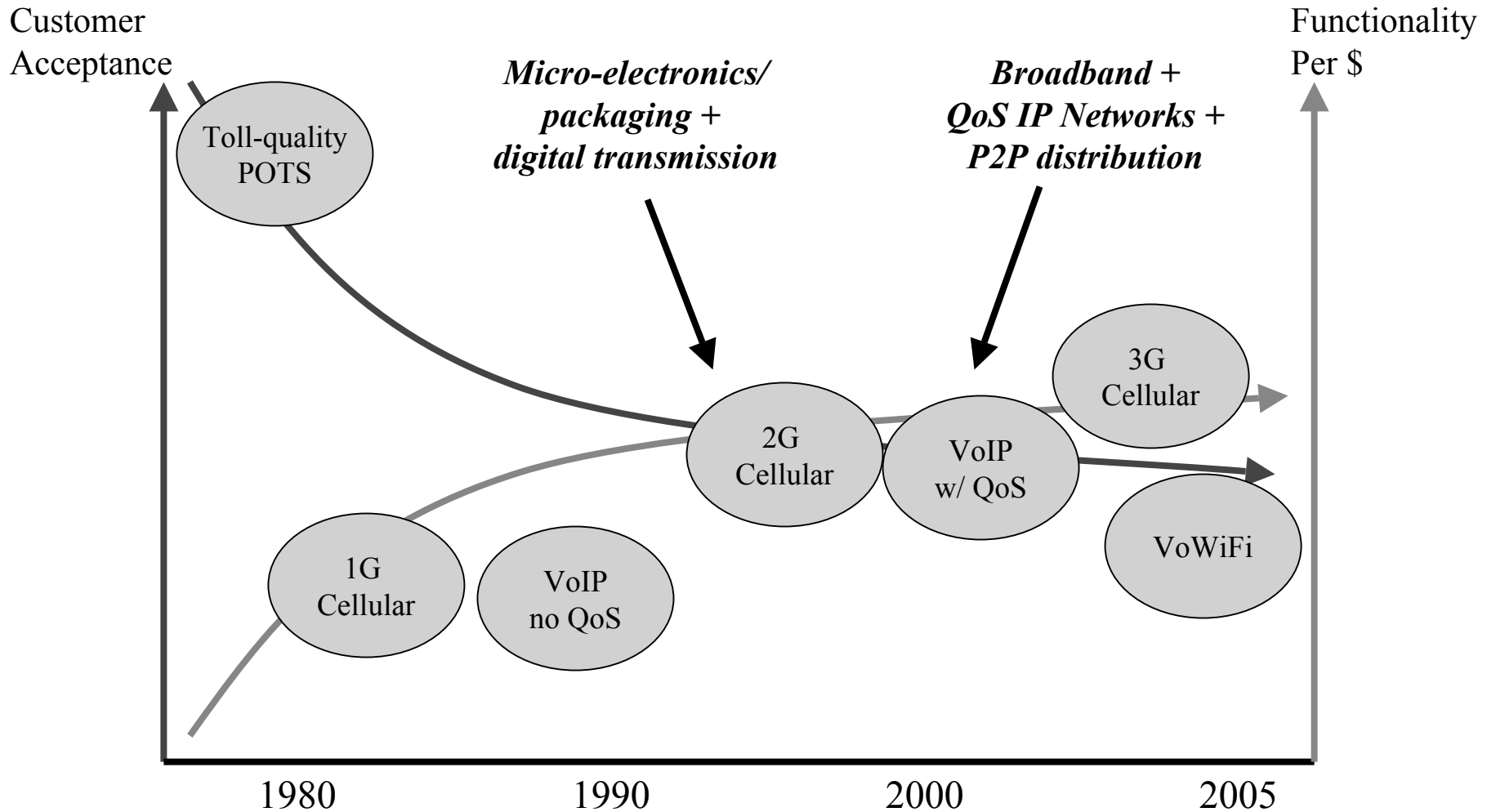
What trips up the underachievers?

- Technology and infrastructure dependencies not in place
 - Example - Reliable, real-time data sources and interfaces for CRM
- Early failures
 - Preys on risk averse attitudes of IT managers
- Poor initial decisions
 - Bias, overconfidence
 - Risky decisions influenced by aspirations/hype
- Unforeseen replacement technologies
 - Example – 802.11x versus 3G and Bluetooth
- Suspect ROI models
 - Unable to measure true performance
 - Based on inference only
- Over-hype
 - Disappointment is a function of expectations.....

What defines the Sleepers?

- Confluence of technologies and environment
 - Example – Microelectronics, Packaging, Networks, user acceptance in 2G Cellular and future VoIP
- Locked away in the lab?
 - DSL, Cellular technology sat dormant for 15+ years
- Not on the radar screen of gatekeepers/thought leaders
 - Gartner, Yankee, etc.
- Critical events or changes in dominant thinking
 - Example - Open-source movement driving Linux
 - Example - BPM outsourcing driving resurgence in ASP model (Salesforce.com)

Cellular/VoIP Confluence Example



Framing the Future

- Significant Uncertainty + Complexity
- Rapidly Changing Market and Technology Base
- Getting burnt breeds over-caution
 - “Fool me once, shame on you. Fool me twice.....”
- Need disciplined framework for evaluating emerging IT in future
- Scenario Planning allows consideration of multiple futures
 - Supports evaluation of emerging technologies under different assumptions
 - Framework for spotting the confluence of forces

Key Forces in Emerging IT

Social

- Telecommuting/Virtual Workers
- Availability of skilled workforce
- Risk-averse IT Managers
- 24x7 society
- Customer expectations
- IT savvy Generation Y
- Demand for Personalization
- Demand for Ubiquity of services
- Increasing SPAM problem

Technological

- Wireless replacement of wireline
- Convergence/Bundled services
- Broadband penetration
- Internet-based services
- Centralized Data Stores
- Customer analytics
- BioTech driving IT
- Moore's Law
- Amdahl's Law
- Wirth's Law
- P2P Applications
- Security Threats

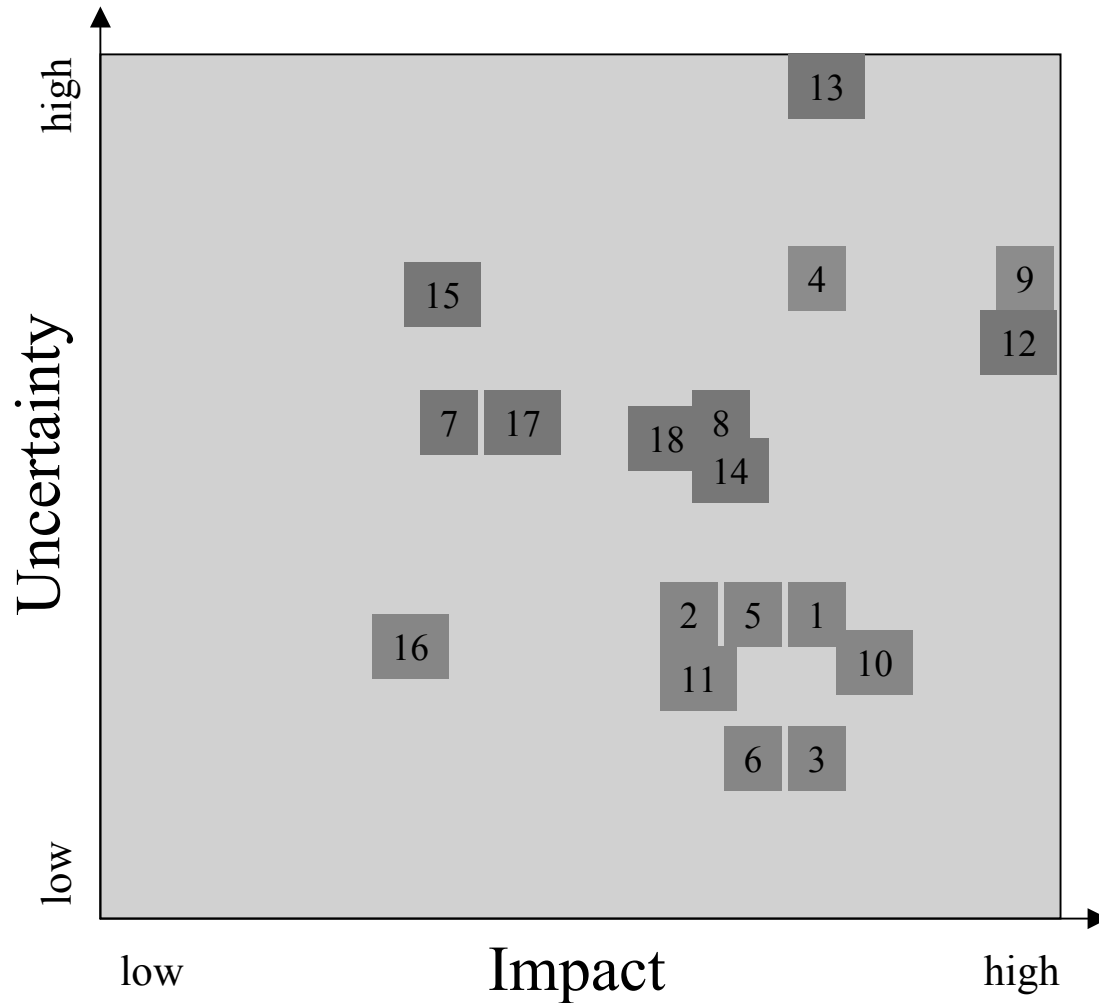
Economic

- Internet bubble aftershock
- Reduced venture funding
- Industry consolidation
- Backlash against large platform investments
- Global outsourcing
- Commoditization at higher levels
- Utility Models
- Micropayments
- Low cost photonics
- Bandwidth Glut

Political

- Rogue standards
- Regulation of emerging technologies
- Wireless Spectrum policy
- Export restrictions
- Trade relations
- Government R&D investment
- Military conflict
- Governance Requirements
- Terrorist-driven requirements
- Cyber-security laws

Force Mapping



- Forces**
1. Virtual Workers
 2. Risk-averse IT Managers
 3. Demand for Ubiquity
 4. Increasing SPAM Problem
 5. Wireless-Wireline displacement
 6. Broadband Penetration
 7. Biotech Driving IT
 8. P2P Application Penetration
 9. Security Threats
 10. Global Outsourcing
 11. Utility Models
 12. Rogue Standards
 13. Regulation of emerging IT
 14. Wireless Spectrum
 15. Trade Relations
 16. Government R&D
 17. Terrorism
 18. Cyber-Security Laws

Future IT Scenario 2x2

Standards/Regulation

Fractured

Unified

<p><i>Technology held hostage</i></p> <ul style="list-style-type: none"> • Developing nations create separate standards across a range of technologies • Creates national resentment/trade barriers • Vendors gridlocked on R&D due to chaotic requirements • MPEG-7, 4G, UWB, efforts stall • IT buyers, frustrated with incompatible systems, turn to custom development • Global IT market recedes further 	<p><i>Runaway Train</i></p> <ul style="list-style-type: none"> • Rogue development runs rampant and leads to unapproved, conflicting standards • New vendors emerge with patent and royalty claims on new standards • Significant regional advances in wireless, broadband, and IT systems technology • P2P networks emerge as competitive threat • Buyers operate in high risk-reward mode with many disparate technology options
<p><i>Hype meets Reality</i></p> <ul style="list-style-type: none"> • IT malaise continues as new technologies fail to prove significant ROI • Buyers turn to proven, off-the-shelf, plug and play technologies for low risk systems • Outsourcing and ASP models thrive based on well-defined standards like SOAP/XML • Over-hyped markets such as 3G and CRM collapse to a few large providers/vendors 	<p><i>Age of Co-Innovation</i></p> <ul style="list-style-type: none"> • Surges in tele-working and broadband penetration expand the market for IT • Significant cooperation among nations and competing vendors to drive new standards • IT Buyers able to focus on business growth as front/back-office integration is simplified • Web services, Linux/open-source, and seamless mobile roaming thrive

Incremental

Breakthrough

Technological Progress

Looking ahead

- Syzygy = the rare alignment of celestial bodies
- Where is the “syzygy” going to occur in IT?
 - VoIP + P2P Networks + WiMax = Distributed Phone System
 - Web Services + Semantic Web + CRM-2 = Adaptive personalization
 - BioSciences + Micro/Nano-electronics = Bio-computing
 - Cognitive Radios + Ambient Power + Nano-electronics = Smart Dust
- Scenarios can be used to spot the likely points of alignment

“Rowe’s Rule: The odds are 5 to 6 that the light at the end of the tunnel is the headlight of an oncoming train”

- Paul Dickson, *Washingtonian*, Nov. 1978

We must have a strategy that can quickly switch tracks and avoid the train wreck!