Pinball Thrived in the Early Days of Video Games

Units, hundred-thousands

Full-Tilt Comeback
“...I've played video games, but I like pinball more... Sooner or later, you grow out of video games. You never grow out of pinball.”
April 28, 1995, Tampa Tribune

New Wizards Flipping Out Over Pinball
Pinball is back, after nearly dying in the mid-'80s as video games took over. In 1983, pinball accounted for only 5 percent of the amusement industry market. But by 1990, the number had jumped to 30 percent.
March 10, 1994, San Francisco Chronicle
Until the Big Bang Disruptor Showed Up

Pinball Units Sold
(Hundreds of Thousands Per Year)

Playstation Units Sold
(Millions Per Year)
### Big Bang Disruptions Upend Conventional Wisdom

<table>
<thead>
<tr>
<th>Conventional Wisdom</th>
<th>Big-Bang Wisdom</th>
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<tbody>
<tr>
<td><strong>Strategic Discipline</strong></td>
<td><strong>Innovation Method</strong></td>
</tr>
<tr>
<td>Focus on only one strategic “discipline” or “generic strategy” – low cost, product innovation, or customer intimacy.</td>
<td>Compete on all three disciplines at once.</td>
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<td>First target a small group of early adopters and later enter the mainstream market.</td>
<td>Market to all segments of users immediately. Be ready to scale up – and exit – swiftly.</td>
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<td>Seek innovation in lower-cost, feature-poor technologies that meet the needs of underserved customer segments.</td>
<td>Seek innovation through rapid-fire, low-cost experimentation on popular platforms.</td>
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Adoption, Saturation, Abandonment in Record Time

Big-Bang Market Segments

<table>
<thead>
<tr>
<th>Segment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Innovators</td>
<td>2.5%</td>
</tr>
<tr>
<td>Early Adopters</td>
<td>13.5%</td>
</tr>
<tr>
<td>Early Majority</td>
<td>34%</td>
</tr>
<tr>
<td>Late Majority</td>
<td>34%</td>
</tr>
<tr>
<td>Laggards</td>
<td>14%</td>
</tr>
</tbody>
</table>

Trial Users | Everybody else
Deflation in Technology is Driving a New Economy

It’s not just Moore’s Law

- Cost of 1 Mbps of data transfer
- Cost of 1 GB of data storage
- Cost of 1 MIPS of mainframe computing power
How Can New Products be Better and Cheaper…Consistently?

Deflationary pressures on innovation:
- Crowdsourcing
- Open source communities
- Open innovation
- Open markets
- Nonstop seamless channels
- Crowdfunding

Deflationary pressures on costs:
- Moore's Law effects on
  - Core technologies
  - Sourcing
  - Manufacturing
  - Distribution
  - Selling
  - Servicing (!)
  - Other costs

Innovation costs = technology savings

Better, but more expensive

Better and cheaper
Innovators Increasingly Compete Against Themselves…and the Market

Nintendo Console Sales: Accelerating Sales, Accelerating Declines
Meanwhile, Incumbents are Left for Dead

They disrupt without even trying

$US millions

“There's been no market impact on the demand for standalone GPS devices”

- TomTom SVP regarding the smartphone market, in 2010

From 2010 to 2011, TomTom’s:
• sales declined by 29%
• stock lost 60% of its value
• market cap fell from $2.3 billion to $1.3 billion.
Two General Forms of Response Have Emerged

Moving Beyond Traditional Boundaries to Capture Growth

Becoming the gatekeeper for content - disrupting the publishing industry as iTunes did with the music industry
- Wall Street Journal

Walgreens eyes further push into healthcare with new educational program for patients with chronic diseases and role in the emerging accountable care organizations
- BNET

AT&T, T-Mobile and Verizon Wireless formed a joint venture chartered with building ISIS, a national mobile commerce network that aims to transform how people shop, pay and save
- Gigaom

Takes on pharmaceutical sector and pioneers new industry between food & pharma
- Financial Times

Failing to Actively Defend its Position leads to Decline

- Filed for Chapter 11 Bankruptcy in September 2010, closing over 1000 stores
- Failed to react to new business models like Netflix, over-the-top on-demand content, and new competitors like Apple, Hulu

- Market share fell from 39% in 2009 to 33% in 2010 (Top Tech News) with operating profit down 26%
- Hit by Apple’s iPhone and Google’s Android as well as low-cost handsets by new entrants such as China ZTE

- Filed for Chapter 11 Bankruptcy in February 2011, closing 200 stores
- Stiff competition from Amazon, Apple, and popularity of e-Readers
Communications is a Leading Arms Merchant for Big Bang Disruption

Components of the Broadband Ecosystem

- Fixed high-speed broadband
- Mobile broadband
- Mobile devices
- App stores
- App developers
- IP convergence
- Fiber
- LTE, 5G
- Global Internet
- Audio, video, VoIP standards
- Content distribution platforms, protocols
Providers are Also Dealing with Disruptions of their Own

1. Transition to native IP technologies

2. Spectrum crunch
Implications for Public Policy – in General

- Market discipline comes increasingly from ecosystem participants (smartphone)
- Near perfect market information gives consumers new leverage (privacy)
- "Information empires," "monopolies" and "duopolies" are rarely what they seem, and don't last long in any case (antitrust)
- Incumbents turn to courts, regulators, and legislators as a last resort (copyright/patent)
- Deregulation can itself be a form of Big Bang Disruption (airlines)
Broadband Policy Lessons – In Specific

• Common carriage, public utility model is counter-productive given ecosystem dynamism.
• Retiring the legacy TDM network is essential – industry is not the problem here.
• Unencumbered VIA auctions maximize social welfare with minimal risk to “competition.” Conditions, caps, screens are all vestiges of a by-gone era of slower change, if that.
• “Prophylactic” rules are counter-productive.
Rules of Engagement

• When in doubt, leave it out
• Create broad spaces for innovation and experimentation rather than micromanaging the crisis-du-jour
• Avoid technology-specific solutions when technology is changing rapidly and consumers are still defining their interests
• If you can't define the problem, the chances of unintended consequences are highest
• Resist reasoning from "the ox to the electric battery" – disruptive innovations are not analogous to anything
• Give the technology and its ecosystem the benefit of the doubt (repeat).
Resources

Upcoming Webinar (3/27)


Article PDF

Upcoming Big Bangs

Some examples by industry

- **Manufacturing** – The “Internet of Things” drives the supply chain from the bottom
- **Health care** – Biometric sensors demystify the shamanistic myth of medicine
- **Finance** – Money becomes just another form of information
- **Government** – Market pricing for public services
- **Consumer Products** – Market-led marketing takes over
- **Energy** – Practical fuel cells...launched on Kickstarter
- **Education** – The virtual ivory tower revolutionizes learning
- **Utilities** – Portable electricity networks mirror wireless communications
- **Pharmaceuticals** – Bespoke drugs based on your DNA
- **Retail banking** – The end of cash
- **Retail** – The disruptive force of the sharing economy
Embracing an Innovation Agenda

- **Privacy** – Consumers adapt quickly to "creepy" new features, and will do a much better job policing them without unintended consequences.
- **Antitrust** – Information empires don't exert the kind of economic leverage that justifies intervention, and don't last long in any case.
- **Copyright** – Tread carefully. Look for opportunities to reform excess incumbent protections.
- **Patent** – Twenty-year protection for innovations with a lifespan of less than ten is skewing the trajectory of emerging markets. End software, business method patents.
- **Securities** – Reduce friction for crowdfunding experiments.
- **Federalism** – Local regulators much more likely to be captured by incumbent industries (Uber, e.g.). Lean toward preemption for innovation law.
- **Immigration** – The more open, the more innovation.
- **Governance** – Think multistakeholder, not ITU.