The Gartner Hype Cycle: What’s Hot for 2012

Jackie Fenn
VP & Gartner Fellow Emeritus
January 24, 2012
Gartner at a Glance

- 775 Analysts
- 290,000 Client Interactions
- 11,500 Client Organizations
- World's Largest Community of CIOs
- 5,500 Benchmarks
- 70% of Fortune 1000
- 75% of Global 500
- 10,000 Media Inquiries
- 470 Consultants
- 1,500 Consulting Engagements
- 55 Conferences
- Clients in 85 Countries
- Vertical Coverage in Nine Industries
- 55 Conferences

Gartner
The Gartner Hype Cycle: What’s Hot for 2012

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So, What Are the Next Big Disruptive Technologies I Should Be Looking At?

<table>
<thead>
<tr>
<th>Know what's out there</th>
<th>But first, know why you care</th>
</tr>
</thead>
<tbody>
<tr>
<td>To have a great idea, have a lot of them.</td>
<td>My success, part of it certainly, is that I have focused in on a few things.</td>
</tr>
<tr>
<td>— Thomas Edison</td>
<td>— Bill Gates</td>
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</tbody>
</table>

- Enterprise App Stores
- Big Data
- 802.11ad
- Internet of Things
- Cloudbursting
- Natural Language Question Answering
- Group Buying
- F-commerce
- Gamification
- Personal Cloud
- Behavioral Gestural Analytics
- 3D Bioprinting
- Social TV
- Microinsurance
- Image Recognition
The Hype Cycle of Innovation

First-generation products, high price, lots of customization needed

Second-generation products, some services

Methodologies and best practices developing

Negative press begins

Mass media hype begins

High-growth adoption phase starts: 20 to 30 percent adoption

Third-generation products, out of the box, product suites

Technology Trigger

Peak of Inflated Expectations

Trough of Disillusionment

Slope of Enlightenment

Plateau of Productivity

Time

Expectations
Emerging Technologies Hype Cycle 2011

- **Technology**
  - Trigger
  - Peak of Inflated Expectations
  - Trough of Disillusionment
  - Slope of Enlightenment
  - Plateau of Productivity

- **Expectations**
  - Activity Streams
  - Wireless Power
  - Social Analytics
  - Group Buying
  - Gamification
  - 3D Printing
  - Image Recognition
  - Context-Enriched Services
  - Speech-to-Speech Translation
  - Internet of Things
  - Natural Language Question Answering
  - Mobile Robots
  - "Big Data" and Extreme Information Processing and Management
  - Video Analytics for Customer Service
  - Computer-Brain Interface
  - Quantum Computing
  - Human Augmentation
  - 3D Bioprinting

- **Internet TV**
  - NFC Payment
  - Private Cloud Computing
  - Augmented Reality
  - Cloud Computing
  - Media Tablet
  - Virtual Assistants
  - In-Memory Database Management Systems
  - Gesture Recognition
  - Machine-to-Machine Communication Services

- **Mesh Networks: Sensor**

- **Speech Recognition**
  - Predictive Analytics

- **Cloud/Web Platforms**
  - Hosted Virtual Desktops
  - Virtual Worlds

- **Biometric Authentication Methods**
  - Mobile Application Stores
  - Idea Management

- **Location-Aware Applications**

**Years to mainstream adoption:**
- ○ less than 2 years
- ○ 2 to 5 years
- ○ 5 to 10 years
- ▲ more than 10 years
- ◎ obsolete
- ◊ before plateau

As of July 2011

Gartner
Gartner’s Hype Cycle Special Report 2011

- 89 Hype Cycles (technologies, applications, management, industries, regional)
- Over 1800 individual technology profiles (including definition, assessment of business impact, advice on adoption and example vendors for each)
- New Hype Cycles this year:
  - Application Services and Outsourcing
  - Cloud Security
  - Cloud Application Infrastructure Services
  - Privacy
  - Smart City Technologies and Solutions
  - Green IT and Sustainability in India
  - Consumer Devices
- Hype Cycle landing page
Technology Trend — Internet of Things

Not a single technology, but an concept enabled by multiple technology advances

• **Driving the Trend:** embedded sensors in devices and objects, image recognition, augmented reality, near field communications

• **Social Impact:** situational decision-support and learning, (even) more transparency

• **Business Opportunities:** real time decision support for customers and employees; remote sensing, services on top of connected products

Source: Violet
Technology Trend — Natural User Interaction

Driving the Trend
- Consumer-grade touch and gesture recognition: media tablets, Kinect
- Large-scale commercialization of screen technologies: OLED, e-paper, 3D
- Machine learning for natural language and image analysis

Social Impact
- Natural language: virtual advisors and friends
- Screens and gesture: interactive and contextual ambiance

Business Opportunities
- Natural language: medicine, legal, government, helpdesk, ecommerce, business intelligence
- Screens and gesture: retail, hospitality, control centers

Source: IBM
Technology Trend —
Real Time Predictive Analytics

Driving the Trend
• Passive data capture through sensors, cameras, social media
• Real time processing, e.g., in-memory databases

Social Impact
• Expectation of precise targeting
• Internet "bubbles"

Business Opportunities
• customer service
• online and physical retailing
• context-based services
• healthcare
• smart cities

Source: Sense Networks
Technology Trend — For Less Than $10,000, How About…

Your very own 3D printer

• **Drivers:** price, range of materials

• **Social Impact:** small business growth in custom designs, decentralization of manufacturing and spare parts

• **Business Opportunities:** focus on IP, not products, logistics process transformation; medical and dental

Or your very own avatar

• **Drivers:** price, laser navigation for flexible movement

• **Social Impact:** low cost remote visits with mobility

• **Business Opportunities:** remote consultations, warehousing, security, high-cost infrastructure
The Hype Cycle of Innovation: Key Questions

What's here that we're not using? Was that a deliberate decision?

What's here that we could be using?
## Emerging Technologies Priority Matrix 2011

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Years to Mainstream Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less than 2 years</td>
</tr>
<tr>
<td>Low</td>
<td>Video Analytics for Customer Service</td>
</tr>
</tbody>
</table>

As of July 2011
Where to Focus Innovation

- **Low Risk, Low Benefit**: Ignore
- **High Risk, Low Benefit**: Track Evaluate
- **Low Risk, High Benefit**: Evangelize Pilot
- **High Risk, High Benefit**: Leverage

Innovation Sweet Spot: High-Risk, High-Benefit Opportunities Need Special Attention
# My Hype Cycle Toolkit

- Database of all the technologies from all of the hype cycles
- Search, sort and filter
- Create custom hype cycle

<table>
<thead>
<tr>
<th>Technology Name</th>
<th>Author(s) / Analysis By</th>
<th>Definition</th>
<th>Position</th>
<th>Time to Plateau</th>
<th>Position and Adoption Speed Justification</th>
<th>Business Impact</th>
<th>User Advice</th>
<th>Benefits Rating</th>
<th>Market Penetration</th>
<th>Maturity</th>
<th>Sample Vendors</th>
<th>Appears on These Hype Cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>10G Gbps Transport</td>
<td>Juan Fernandez, Peter Kjeldsen</td>
<td>Updates to optical transport systems enabling the</td>
<td>2x post-trigger 25%</td>
<td>3 to 10 years</td>
<td>No commercial deployments are available as of mid-2008; CSP trials are advanced and</td>
<td>This technology offers cost-effective addressing</td>
<td>3 High</td>
<td>1. Less than 1% of target audience</td>
<td>2. Emerging</td>
<td>Alcatel-Lucent; Cisco; Huawei; Nokia</td>
<td>Communications Service Provider Infrastructure</td>
<td></td>
</tr>
<tr>
<td>10G PON</td>
<td>Peter Kjeldsen</td>
<td>10 Gbps passive optical network (10G PON) will be a</td>
<td>2x pre-peak 20%</td>
<td>2 to 5 years</td>
<td>The fixed-access market is a high-volume market, and the challenge facing current-generation</td>
<td>10G PON could become the mainstream PON</td>
<td>2 Moderate</td>
<td>1. Less than 1% of target audience</td>
<td>2. Emerging</td>
<td>Alcatel-Lucent; Huawei; Motorola</td>
<td>Communications Service Provider Infrastructure</td>
<td></td>
</tr>
<tr>
<td>3-D Flat-Panel Displays</td>
<td>Paul O’Donovan</td>
<td>Four technologies are currently used to display 3-D</td>
<td>1x post-trigger 10%</td>
<td>3 to 10 years</td>
<td>The revival of 3-D movies has stimulated the cinema-going public, so displaying</td>
<td>3-D displays are likely to be developed for the video game market</td>
<td>2 Moderate</td>
<td>1. Less than 1% of target audience</td>
<td>2. Emerging</td>
<td>Hyundai; JVC; Panasonic; Philips Electronics;</td>
<td>Consumer Technologies; Human-Computer Interaction; Emerging Technologies</td>
<td></td>
</tr>
<tr>
<td>3-D LCDs</td>
<td>Mikako Kitagawa</td>
<td>The 3-D LCD technology enables users to view 3-D images</td>
<td>2x pre-peak 10%</td>
<td>2 to 5 years</td>
<td>The 3-D LCD technology has been in the market for some time; however, it is still a niche</td>
<td>Notebook displays, PC monitors, game consoles,</td>
<td>1 Low</td>
<td>1. Less than 1% of target audience</td>
<td>2. Emerging</td>
<td>Eastman Kodak; Hitachi; Hitachi; JVC; LG</td>
<td>PC Technologies; Human-Computer Interaction</td>
<td></td>
</tr>
<tr>
<td>3-D Printing</td>
<td>Pete Basilec</td>
<td>Unlike the rapid prototyping and rapid manufacturing</td>
<td>2x pre-peak 25%</td>
<td>3 to 10 years</td>
<td>Continued quality improvements and price decreases in both 3-D printers and scanners have</td>
<td>The current range of 3-D printing applications focuses on</td>
<td>4 Transformational</td>
<td>2.1% to 5% of target audience</td>
<td>3. Adolescent</td>
<td>3-D Systems; Desktop Factory; Objet; Renishaw</td>
<td>Printing Markets and Management; Emerging Technologies</td>
<td></td>
</tr>
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</table>
Using the Hype Cycle for your Technology Portfolio

Scan relevant hype cycles as part of your regular technology tracking activities.

Generate a shortlist of technologies for discussion in IT portfolio and strategic planning meetings.

Use the spreadsheet to drive creativity at IT or management off-sites: Select early-stage technologies (with maturity levels of embryonic or emerging, or with a Hype Cycle position before the peak), and ask "Could this technology bring us a competitive advantage?"

Use the spreadsheet as a risk reduction tool. Check through later-stage technologies to ensure that you do not inadvertently miss out on a key technology that is entering maturity, to avoid becoming out of step with the rest of the industry.

Keep the spreadsheet available as a database for technology research.

Create your own Hype Cycle of technologies that you are adopting or evaluating. Educate business or IT audiences about the peaks and troughs in expectations that they can expect as the technologies mature.
"The task is not so much to see what no one yet has seen, but to think what nobody yet has thought about that which everybody sees."

Arthur Schopenhauerauer, 1788-1860
Related Gartner Research

- Gartner's Hype Cycle Special Report for 2011
  Jackie Fenn (G00215667)

- Hype Cycle for Emerging Technologies, 2011
  Jackie Fenn, Hung LeHong (G00215650)

- Toolkit: My Hype Cycle, 2011 (G00219464)
  Jackie Fenn

- Trends That Matter: Top Trends and Their Business Impact
  Jackie Fenn (G00213378)

- The STREET Process for Emerging Technology and Innovation Adoption
  Jackie Fenn (G00174060)

- Mastering the Hype Cycle: How to Choose the Right Innovation at the Right Time
  Jackie Fenn and Mark Raskino
Gartner CIO Leadership Forum
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