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Gartner's 2014 Hype Cycle for Emerging Technologies Maps the Journey to Digital Business

2014 Hype Cycle Special Report Evaluates the Maturity of More Than 2,000 Technologies

2014 Marks 20th Anniversary of the Gartner Hype Cycle

The journey to digital business is the key theme of Gartner, Inc.'s "Hype Cycle for Emerging Technologies, 2014." As the Gartner Hype Cycle celebrates its 20th year, Gartner said that as enterprises set out on the journey to becoming digital businesses, identifying and employing the right technologies at the right time will be critical.

Gartner's 2014 Hype Cycle Special Report provides strategists and planners with an assessment of the maturity, business benefit and future direction of more than 2,000 technologies, grouped into 119 areas. New Hype Cycles this year include Digital Workplace, Connected Homes, Enterprise Mobile Security, 3D Printing and Smart Machines.

The Hype Cycle for Emerging Technologies report is the longest-running annual Hype Cycle, providing a cross-industry perspective on the technologies and trends that business strategists, chief innovation officers, R&D leaders, entrepreneurs, global market developers and emerging technology teams should consider in developing emerging-technology portfolios.

"The Hype Cycle for Emerging Technologies is the broadest aggregate Gartner Hype Cycle, featuring technologies that are the focus of attention because of particularly high levels of hype, or those that Gartner believes have the potential for significant impact," said Jackie Fenn, vice president and Gartner fellow. "Enterprises should use this Hype Cycle to identify which technologies are emerging and use the concept of digital business transformation to identify which business trends may result."

"The central theme for this year's Emerging Technologies Hype Cycle is Digital Business (see Figure 1). As enterprises embark on the journey to becoming digital businesses, they will leverage technologies that today are considered to be "emerging," said Hung LeHong, vice president and Gartner fellow. "Understanding where your enterprise is on this journey and where you need to go will not only determine the amount of change expected for your enterprise, but also map out which combination of technologies support your progression."

Figure 1. Hype Cycle for Emerging Technologies, 2014
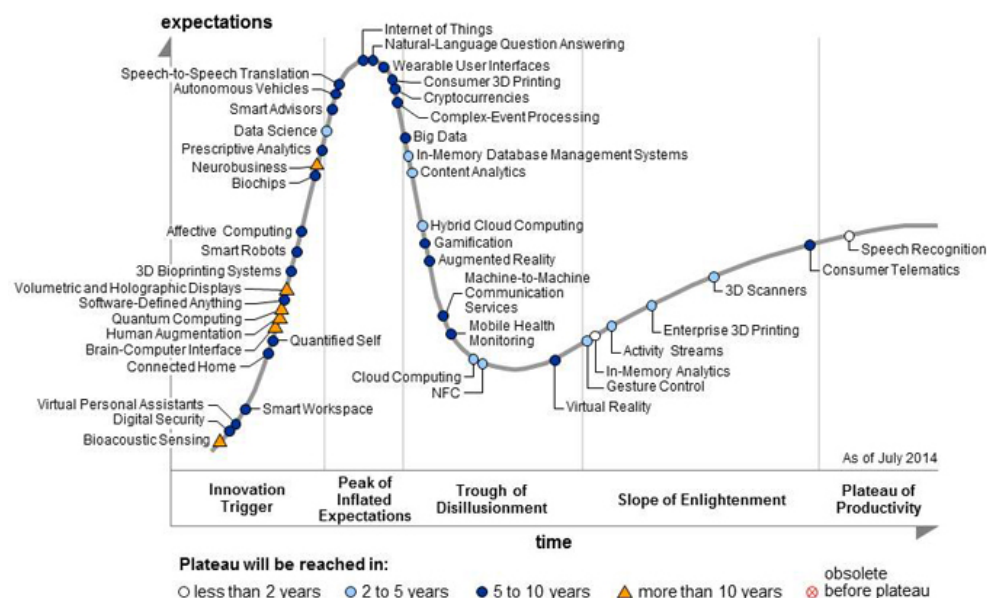
Source: Gartner (August 2014)

As set out on the Gartner road map to digital business, there are six progressive business era models that enterprises can identify with today and to which they can aspire in the future.

Six Business Era Models in the Digital Business Development Path

Stage 1: Analog

Stage 2: Web

Stage 3: E-Business

Stage 4: Digital Marketing

Stage 5: Digital Business

Stage 6: Autonomous

Since the Hype Cycle for Emerging Technologies is purposely focused on more emerging technologies, it mostly supports the last three of these stages: Digital Marketing, Digital Business and Autonomous.

Digital Marketing (Stage 4): The Digital Marketing stage sees the emergence of the Nexus of Forces (mobile, social, cloud and information). Enterprises in this stage focus on new and more sophisticated ways to reach consumers, who are more willing to participate in marketing efforts to gain greater social connection, or product and service value. Buyers of products and services have more brand influence than previously, and they see their mobile devices and social networks as preferred gateways. Enterprises at this stage grapple with tapping into buyer influence to grow their business. The following technologies on the Hype Cycle represent the Digital Marketing stage:

Software-Defined Anything; Volumetric and Holographic Displays; Neurobusiness; Data Science; Prescriptive Analytics; Complex Event Processing; Big Data; In-Memory DBMS; Content Analytics; Hybrid Cloud Computing; Gamification; Augmented Reality; Cloud Computing; NFC; Virtual Reality; Gesture Control; In-Memory Analytics; Activity Streams; Speech Recognition.

Digital Business (Stage 5): Digital Business is the first post-nexus stage on the road map and focuses on the convergence of people, business and things. The Internet of Things and the concept of blurring the physical and virtual worlds are strong concepts in this stage. Physical assets become digitalized and become equal actors in the business value chain alongside already-digital entities, such as systems and apps. 3D printing takes the digitalization of physical items further and provides opportunities for disruptive change in the supply chain and manufacturing. The ability to digitalize attributes of people (such as the health vital signs) is also part of this stage. Even currency (which is often thought of as digital already) can be transformed (for example, cryptocurrencies). Enterprises seeking to go past the Nexus of Forces technologies to become a digital business should look to these additional technologies:

Bioacoustic Sensing; Digital Security; Smart Workspace; Connected Home; 3D Bioprinting Systems; Affective Computing; Speech-to-Speech Translation; Internet of Things; Cryptocurrencies; Wearable User Interfaces; Consumer 3D Printing; Machine-to-Machine Communication Services; Mobile Health Monitoring; Enterprise 3D Printing; 3D Scanners; Consumer Telematics.

Autonomous (Stage 6): Autonomous represents the final post-nexus stage. This stage is defined by an enterprise's ability to leverage technologies that provide humanlike or human-replacing capabilities. Using autonomous vehicles to move people or products or using cognitive systems to write texts or answer customer questions are all examples that mark the Autonomous stage. Enterprises seeking to reach this stage to gain competitiveness should consider these technologies on the Hype Cycle:

Virtual Personal Assistants; Human Augmentation; Brain-Computer Interface; Quantum Computing; Smart Robots; Biochips; Smart Advisors; Autonomous Vehicles; Natural-Language Question Answering.

"Although we have categorized each of the technologies on the Hype Cycle into one of the digital business stages, enterprises should not limit themselves to these technology groupings," said Mr. LeHong. "Many early adopters have embraced quite advanced technologies, such as autonomous vehicles or smart advisors, while they continue to improve nexus-related areas, such as mobile apps - so it's important to look at the bigger picture."

Additional information is available in Gartner's "Hype Cycle for Emerging Technologies, 2014" at http://www.gartner.com/document/2809728. The Special Report includes a video in which Betsy Burton, Gartner vice president and distinguished analyst, provides more details regarding this year's Hype Cycles, as well as links to all of the Hype Cycle reports. The Special Report can be found at http://www.gartner.com/technology/research/hype-cycles/.

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