

Gartner® SYMPOSIUM ITXPO® 2014

1 – 3 April | Dubai, UAE
gartner.com/me/symposium



Executive Summary Report

Leading in a digital world: The dawn of the digital industrial economy

Overview

Gartner Symposium/ITxpo 2014, 1 – 3 April, in Dubai, UAE, brought together more than 600 CIOs and senior IT executives to understand and prepare for **Leading in a Digital World**. In three days of analyst presentations, keynotes, sponsor presentations and peer-to-peer interactions, it became clear that the digital world is fully upon us — creating new capabilities, business models and leadership paradigms that will shape the emerging digital industrial economy. Three fundamental truths emerged as the defining realities of a new digital world:

1. Every company is a technology company.

Digitalization is changing how business creates and delivers products and services, regardless of the industry. In the digital age, data collection and analysis are quickly becoming highly sophisticated, and emerging digital technologies will support optimized business processes, create new business models, and identify and exploit fleeting business opportunities — valuable moments that will increasingly serve as competitive differentiators.

Peter Sondergaard, Senior Vice President, Gartner Research, elaborates on this concept in his [blog](#). ▶

2. Every budget is becoming an IT budget.

Twelve years ago, technology spending outside of IT was 20% of total technology spending; by the end of the decade, it will be almost 90%. Organizations are moving marketing spend from analog to digital, are digitizing how they service their clients and are turning digitization into new revenue streams.



Peter Sondergaard
Senior Vice President,
Gartner Research

3. Every business leader is becoming a digital leader.

Digital leadership means moving from managing the IT organization to being a business and technology leader in the business. In addition, digital leadership means moving from aligning to the business strategy to fully enabling the digital future — reinventing the organization’s traditional business model.

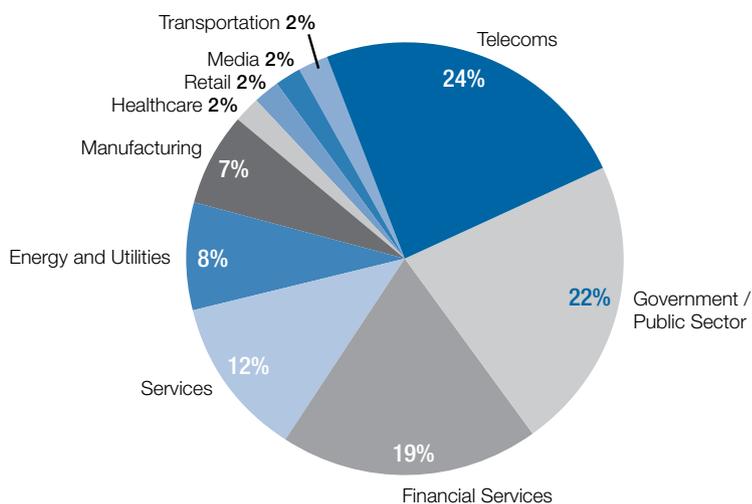
To address today’s business and technology changes, organizations will create the role of a chief digital officer as part of the business unit leadership, which will become a new seat at the executive table. Gartner predicts that by 2015, 25% of organizations will have a chief digital officer.

This brief summary is designed to offer a context for strategic CIO decision making and help formulate tactical next steps for the entire IT team.

Audience highlights



Industry snapshot





Key trends and take-aways

The Signature Series

Presenting the hottest trends and most provocative topics, 10 Signature Series sessions set the stage for the seismic technology, business and cultural changes that lie ahead.

The CIO Agenda for 2014

Dave Aron, VP and Gartner Fellow

Information 20:20

Betsy Burton, VP Distinguished Analyst

The Cloud Computing Scenario: End of the Beginning Goes From Cloud to Ground and Back

David W. Cearley, VP and Gartner Fellow

The Mobile Scenario: Innovation Plus Agility Equals Opportunity

David Willis, VP Distinguished Analyst

Top 10 Strategic Predictions: Gartner Predicts a Disruptive and Constructive Future for IT

John Mahoney, VP Distinguished Analyst

The Top 10 Strategic Technology Trends for 2014

David W. Cearley, VP and Gartner Fellow

Conference sessions: Online access for one year

Gartner Events On Demand is an offering that provides video/audio clips of Sessions from select Gartner Events. These online Sessions include fully synchronized slides. Sessions available for viewing can be accessed at **gartnereventsondemand.com**.

Dubai Symposium/ITxpo sessions have not been recorded this year however in appreciation of your attendance, you receive full online access to Orlando Symposium/ITxpo sessions.

Visit gartnereventsondemand.com and sign in using your gartner.com login and password.

Questions? Please email **eventsondemand@gartner.com**.



Signature Series highlights include:

The CIO Agenda for 2014 Dave Aron



Citing cross-industry best practices and a sneak peek into preliminary findings from the Gartner 2014 CIO Survey, Gartner analyst Dave Aron urged CIOs to tame the digital “dragon” and integrate it into their existing processes and internal business activities, expanding their focus to include electronically available information and technology beyond traditional IT. The move from reactive effectiveness to proactive value creation is crucial because it enables CIOs to help create an innovative, nexus-focused digital ecosystem hand-in-hand with business.

Top 10 Strategic Predictions: Gartner Predicts a Disruptive and Constructive Future for IT John Mahoney



Addressing the overnight disruptions of IT on our personal and professional realities, Gartner analyst John Mahoney described the freedoms and chaos of the digital industrial revolution — urging enterprises to consider the advantages and risks of 3D printing, embrace the idea of using crowd communities as a digital accessory to fuel growth and innovation, and view personal data as an asset and potential source of barter. An IT crisis is brewing with a growing gap between the functionality of the IT department and the explosion of user-based digital capability, raising concerns about data security and unrest in the labor pool.

Top 10 Strategic Predictions: Gartner Predicts a Disruptive and Constructive Future for IT (continued)

The Gartner top predictions are broken out into four categories, which include:

1. Digital industrial revolution. IT is no longer just about the IT function. Rather, it is about IT becoming the catalyst for the next phase of innovation in personal and competitive business ecosystems. One place where this is evident is in the beginnings of the digital industrial revolution, which is threatening to reshape the way physical goods are created through the use of 3D printing.

By 2018, 3D printing will result in the loss of at least \$100 billion per year in intellectual property globally. Near-term flag: By 2015, at least one major western manufacturer will claim to have had intellectual property (IP) stolen for a mainstream product by thieves who use 3D printers and who likely reside in the same western countries rather than in Asia.

The plummeting costs of 3D printers, scanners and 3D modeling technology, combined with improving capabilities, make the technology for IP theft more accessible to would-be criminals. More important, 3D printers do not have to produce a finished good in order to enable IP theft. The ability to make a wax mold from a scanned object, for instance, can enable a thief to produce large quantities of items that exactly replicate the original.

By 2016, 3D printing of tissues and organs (bioprinting) will cause a global debate about regulating the technology or banning it for both human and nonhuman use. Near-term flag: The U.S. Food and Drug Administration, or comparable agency in a developed nation that is charged with evaluating all medical proposals, will introduce guidelines that prohibit the bioprinting of life-saving 3D-printed organs and tissues without its prior approval by end of 2015.

Bioprinting is the medical application of 3D printers to produce living tissue and organs. The day 3D-bioprinted human organs are readily available is drawing closer. The emergence of 3D-bioprinting facilities with the ability to print human organs raises questions about its effect on society. Beyond these concerns, however, there is the reality of what 3D bioprinting means in helping people who need organs that are otherwise not readily available.

2. Digital business. Digital business refers to business created using digital assets or capabilities, involving digital products, services or customer experiences, and conducted through digital channels and communities. The Gartner digital business predictions focus on the effect digital business will have on labor reductions, consumer goods revenue and use of personal data. While these do not cover the entire digital business, they do highlight critical areas of medium- to long-term impact.

By 2017, more than half of consumer goods manufacturers will receive 75% of their consumer innovation and R&D capabilities from crowdsourced solutions. Near-term flag: Consumer goods companies that employ crowdsourced solutions in marketing campaigns or new product development will enjoy a 1% revenue boost over noncrowdsourced competitors by 2015.



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Top 10 Strategic Predictions: Gartner Predicts a Disruptive and Constructive Future for IT (continued)

Engineers, scientists, IT professionals and marketers at consumer goods companies are engaging crowds much more aggressively and with increasing frequency using digital channels to reach a larger and more anonymous pool of intellect and opinion.

Gartner sees a massive shift toward crowdsourcing applications, enabled by technology, in areas such as advertising, online communities, scientific problem solving, internal new product ideas and consumer-created products.

By 2020, the labor reduction effect of digitalization will cause social unrest and a quest for new economic models in several mature economies. Near-term flag:

A larger-scale version of the Occupy Wall Street movement will begin by the end of 2014, indicating that social unrest will start to foster political debate.

Digitalization is reducing labor content of services and products in an unprecedented way, thus fundamentally changing the way remuneration is allocated across labor and capital. In the long term, this makes it increasingly impossible for large groups to participate in the traditional economic system — even at lower prices — leading them to look for alternatives such as a bartering-based (sub)society, urging a return to protectionism or resurrecting initiatives like Occupy Wall Street, but on a much larger scale. Mature economies will suffer most as they don't have the population growth to increase autonomous demand nor the labor unions or political parties powerful enough to (re-)allocate gains in what continues to be a global economy.

By 2017, 80% of consumers will collect, track and barter their personal data for cost savings, convenience and customization. Near-term flag: The number of kickstarter-based auctions of personal data will increase by triple-digit percentages by the end of 2014.

The escalation of consumer awareness of data collection practices has set the stage for offering consumers more control over the disposition of personal data — collected both online and offline. As increasing demand and scarcity drive up the value of such data, incentives grow to entice consumers to share it voluntarily. Meanwhile, consumer interest in self-tracking suggests that consumers are investing more time and energy in collecting data about themselves. Increasingly, they view such data as a key asset for life improvement, which potentially is consistent with the idea of trading it for value under the right circumstances.

By 2020, enterprises and governments will fail to protect 75% of sensitive data, declassifying and granting broad public access to it. Near-term flag:

By 2015, at least one more Edward Snowden or WikiLeaks moment will occur, indicating an upward trend in corporations' and governments' acceptance that they cannot protect all sensitive information.

The amount of data stored and used by enterprises and governments is growing exponentially, such that any attempt to protect it all is unrealistic. Instead of facing an unfathomable task of protecting all data, enterprises and governments will focus on protecting only a small part of it, but protecting it well.

In addition, a wider society will gain from this approach, enabling it to establish better control over government and business, preventing abuses of power and engendering greater trust.

By 2017, 80% of consumers will collect, track and barter their personal data for cost savings, convenience and customization.

Top 10 Strategic Predictions: Gartner Predicts a Disruptive and Constructive Future for IT (continued)

3. Smart machines. The emergence of smart machines as cognizant and cognitive systems adds opportunity and fear. They can enhance processes and decision making but also could remove the need for people in the process and decision effort. CIOs will see this as a means of delivering greater efficiency, but they will have to balance the active human workforce with the cold efficiency of machines that can learn.

By 2024, at least 10% of activities potentially injurious to human life will require mandatory use of a non-overrideable smart system. Near-term flag: Economically priced cars with automated assist technology added as standard equipment will increase by 2014, which will act as an indicator of adoption.

The deployment of smart systems capable of automatically responding to external events is increasing all the time, but a deep-seated resistance to eliminating the option for human intervention remains. The capability, reliability and availability of appropriate technology are not the issue. Rather, the willingness of the general population to accept initial widespread deployment and increasing removal of manual override options is the issue.

By 2020, a majority of knowledge worker career paths will be disrupted by smart machines in both positive and negative ways. Near-term flag: Virtual personal assistant usage in business will grow more quickly in 2017 and 2018 than iPad usage did in 2010 and 2011.

Gartner forecasts that smart machines will upend a majority of knowledge workers' career paths by 2020. Smart machines exploit machine learning and deep-learning algorithms. They behave autonomously, adapting to their environment. They learn from results, create their own rules and seek or request additional data to test hypotheses. They are able to detect novel situations, often far more quickly and accurately than people. IT professionals need to recognize that smart machines can create substantial competitive advantages, as well as entirely new businesses.

By 2017, 10% of computers will be learning rather than processing. Near-term flag: In 2014, the number of speech recognition applications running on deep neural network algorithms will double.

Deep learning methods, based on deep neural networks, are currently being applied in speech recognition systems and some object recognition applications. Quality of life improves when society is able to derive useful information from the copious amounts of unstructured data collecting on the Internet. The most important implication of a learning computer is that it expands much less energy to recognize more complex patterns.

4. Internet of Things. The Internet of Things cements the connection between machines, people and business interactions in the modern era. With the advent of massively connected devices, businesses, governments and people now have access to more information about themselves and their surroundings than they can actually act on. The Gartner prediction focuses on the opportunity to build applications and services that can use that information to create new engagement models for customers, employees and partners, and to foster a new set of business and marketing models that make the word "engagement" a truly valuable asset.



By 2017, 10% of computers will be learning rather than processing.

Top 10 Strategic Predictions: Gartner Predicts a Disruptive and Constructive Future for IT (continued)

By 2020, consumer data collected from wearable devices will drive 5% of sales from the Global 1000. Near-term flag: The number of smartphone apps requesting to share consumer data will increase twofold by 2015, indicating a rise in the number of marketers or proprietors who seek access to customer profile data.

Wearable computing, or wearables, is quickly moving into mainstream society, led by the growing, multibillion dollar health and fitness markets. Within five years, consumer wearables will become more sophisticated, capturing what the user sees, hears or even feels through biorhythmic responses. The technical hurdles that have stalled the adoption of wearables (battery life, augmented reality, chip evolution and bandwidth) are quickly eroding, opening doors to creative minds determined to exploit this technology for commercial gain as evidenced by sizable investments in wearable technology by Samsung, Google, Apple and Microsoft.

“While some of these disruptive topics might seem as if they do not have a direct impact on the IT function, we must embrace the notion that IT is now a part of everything,” said Mr. Plummer. “As the structure of businesses and industries change, the IT systems that support them will change and so will the skills, processes and controls needed to keep them functioning. The day when 3D-printed computer architecture exists is upon us, and the days when the digital business, smart machines or the Internet of Things change what computers are may not be far off.”

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Top 10 Strategic Technology Trends for 2014 David W. Cearley



Expected to drive significant market and industry disruption, the top strategic technology trends, revealed by Gartner analyst David W. Cearley, included:

Mobile device diversity and management

No single vendor will dominate the market, and Google, Apple and Microsoft will be key players, in that order. Form factors will increase, ranging from wearable devices to large displays for shared viewing, connected by personal-area networks by 2017.

Mobile apps and applications

Video and voice are changing existing UI models, giving rise to a need for cross-platform applications and a growing need for new development skills. New questions will arise about native app development versus apps based on HTML5.

Top 10 Strategic Technology Trends for 2014 (continued)

The Internet of Everything

People, places, information and things will all be connected via the Internet, with 25 billion devices expected to be part of the ecosystem by the year 2020. As a result, usage and business models will change dramatically and big data analysis will grow in importance.

Hybrid cloud and IT as service broker

Four kinds of hybrid solutions will emerge: a static composition, in which some services run within the organization and others in the public cloud; an event composition, focused on a specific event, such as a disaster recovery; a deployment composition, in which services combine whenever and wherever a service is provisioned; and a dynamic composition, in which an application can be recomposed during runtime.

Cloud client architecture

A new model involves front-end platforms, or cloud clients, that can be on multiple devices and services that come from the cloud — a control point and a system of record for applications that span multiple client devices, with each user experience changing on the basis of context.

The era of personal cloud

Each individual will have the ability to maintain a personal set of cloud services, with a greater shift of power and control toward the end user. IT must prepare for this shift by including new and more robust security measures.

Software-defined anything

“Everything is a platform” is a trend on every vendor’s radar — with open-source and proprietary elements. Offering greater standardization and faster reconfiguration, services can be hosted within or without the data center, with significant cost-savings as the goal.

Web-scale IT

Big (hyperscale) and resilient data centers, such as those run by Facebook, Google or Amazon Web Services, will gain traction within the enterprise, particularly in areas such as designing for failure and DevOps, in which development and operations behave more like a single function.

The rise of smart machines

A new class of smart machines with far-reaching capabilities will arise and be divided into such groups as “movers” (autonomous vehicles); “doers” (robotic equipment); and “sages” (personal assistants, such as Siri and Google Now, as well as smart advisors, such as IBM’s Watson).

3D printing

Gartner foresees huge potential for 3D printing in the creation of prototypes and in the short-run manufacturing of applications and warns of inevitable counterfeiting and anticipates a debate on the ethics of bioprinting and other uses of 3D-printed materials.



Luminary guest keynote

Guy Kawasaki

Managing Director,
Garage Technology Ventures



Roles and industries

Roles:

Applications
Business Intelligence and
Information Management
CIO
Infrastructure & Operations

Industries:

Financial Services
Government
Oil & Gas
Energy & Utilities

ITxpo and solution providers

Cutting-edge solutions from 34 solution providers were displayed on the exhibit floor, that aligned with the Gartner Symposium/ITxpo IT role-based agenda tracks. Special ITxpo features included solution provider sessions and theater presentations.

Share your feedback

We're continually aiming to improve your Gartner Symposium/ITxpo experience and your input is valuable. Please email us at rutuja.vadhavkar@gartner.com with your additional comments or suggestions about this year's event.

