Top Technology Predictions for 2013 and Beyond

Daryl Plummer

Managing VP & Gartner Fellow

December 19, 2012

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Gartner at a Glance

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- 800 Analysts
- 290,000 Client Interactions
- 70% of Fortune 1000
- 76% of Global 500
- 10,200 Media Inquiries
- 64 Conferences
- 1,700 Consulting Engagements
- 480 Consultants
- 5,500 Benchmarks
- Vertical Coverage in Nine Industries
- Clients in 85 Countries
- 12,000 Client Organizations
- World's Largest Community of CIOs

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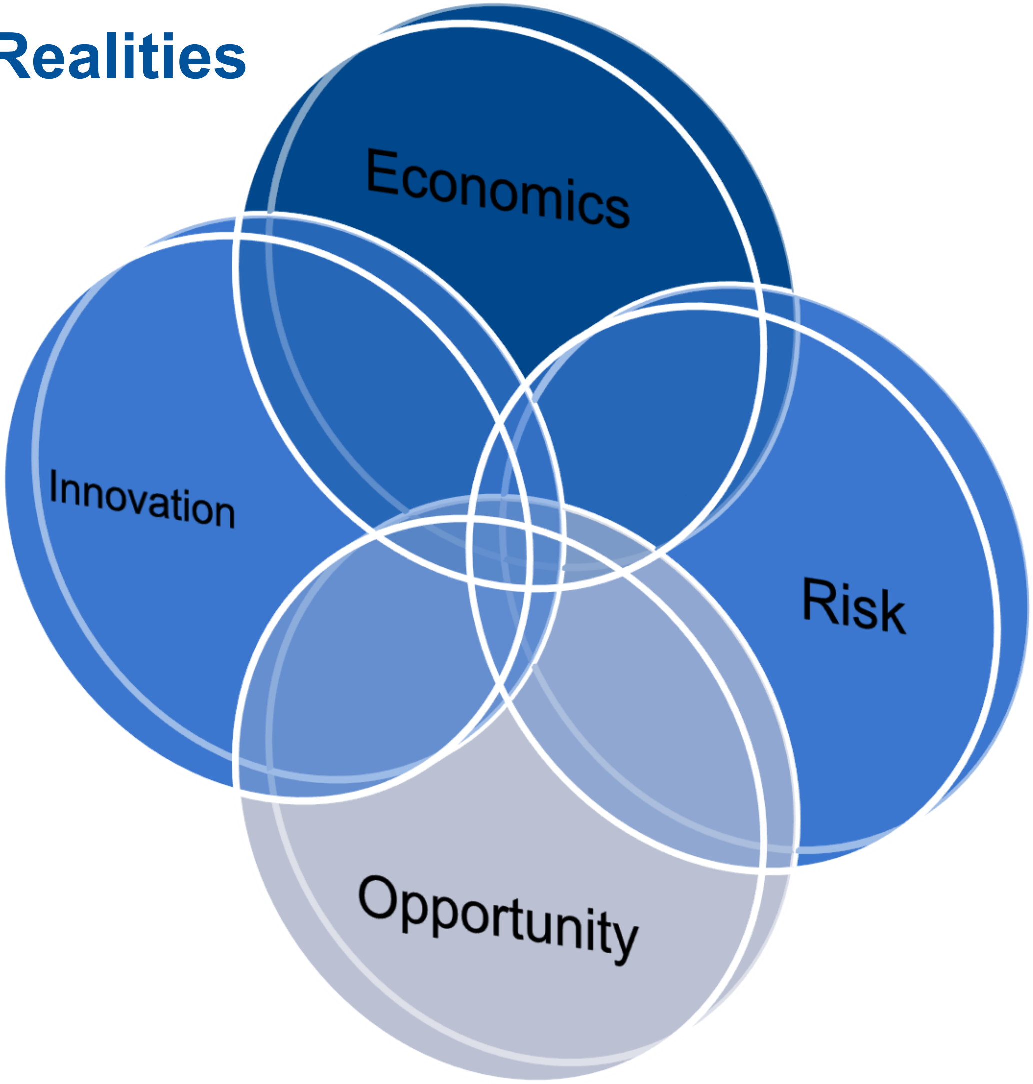
The Essence of Successful IT Strategy Lies in Balance

Key 2012-2013 Realities



Key Issues

- What key predictions will affect business and IT growth strategies?
- What predictions will shape CIO strategies in the Era of the Nexus?
- What predictions will highlight key market changes in IT adoption?

In 2012, CEOs Predominantly Focus on Revenue Growth to Find Balance

2012 CEO Priorities
1. **Increasing Enterprise Growth**
2. **Reducing Enterprise Costs**
3. **Expanding Into New Markets or Geographies**
4. **Increase Profitability**
5. Implementing Finance and Controls
6. **Talent and Workforce Management/Development**
7. Consolidating, Standardizing and Streamlining Operations
8. **Execute M&As and Partnerships**
9. Improve Governance, Compliance, Risk and Security
10. **Create New Products and Services**

Responses to 2012 CEO and Senior Executive Survey

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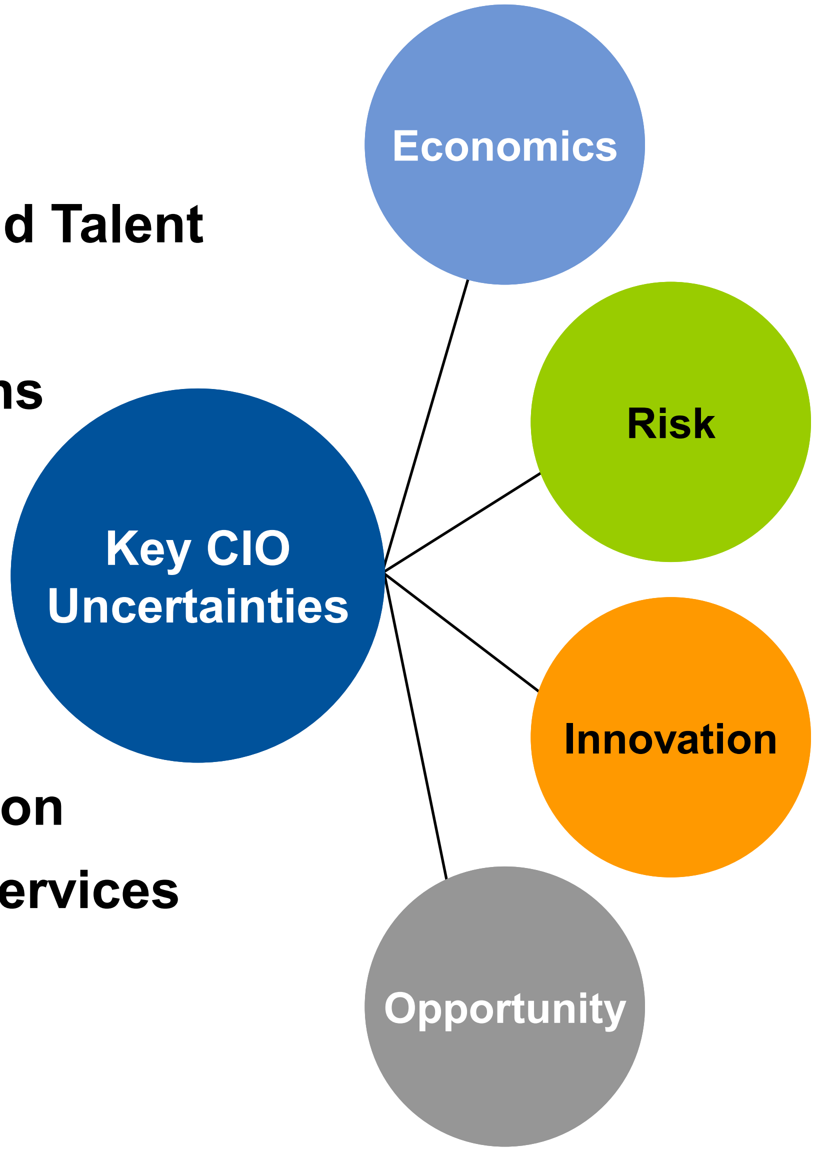
CIOs Must Align With CEO Goals *and* an Uncertain Future to Find Balance

- Managing Jobs and Talent
- Growth Potential
- Efficient Operations



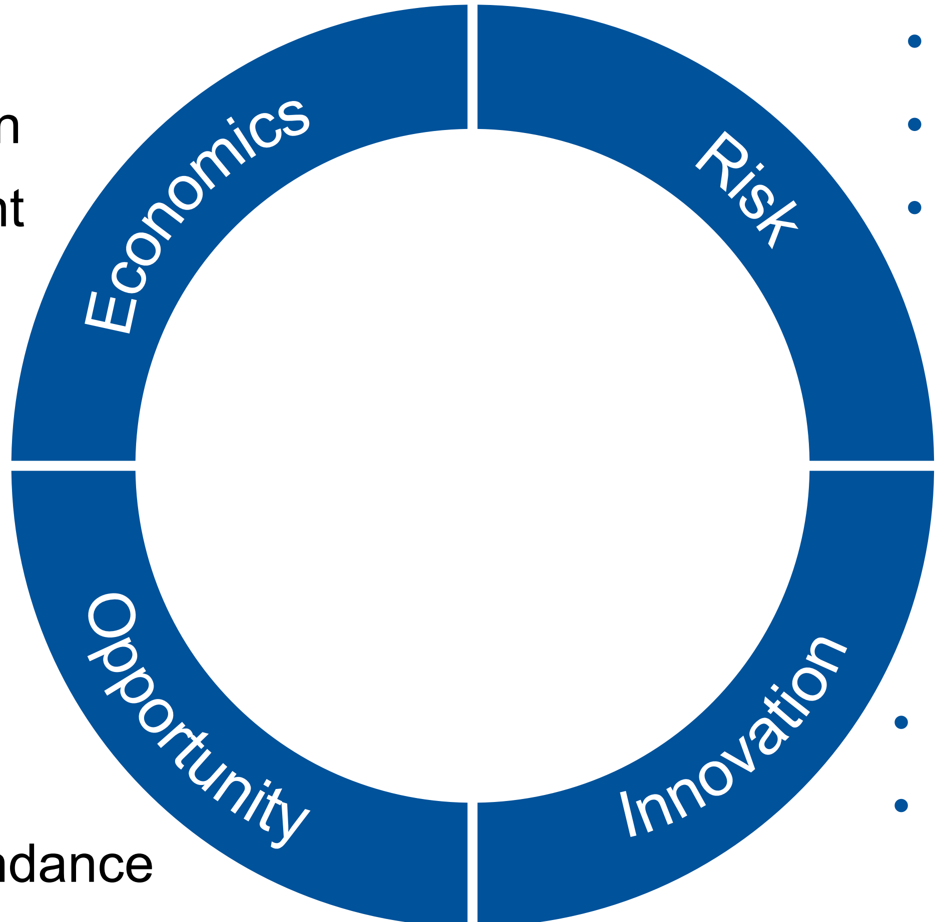
- Reducing Costs
- Fostering Innovation
- Leveraging New Services

What do Gartner's Top Predictions Foretell That Crosses Multiple CIO Priorities?

Gartner's Top Predictions Expose Uncertainties in Economics, Opportunity, Risk and Innovation

- Job Creation
- Job Protection
- Job Fulfillment

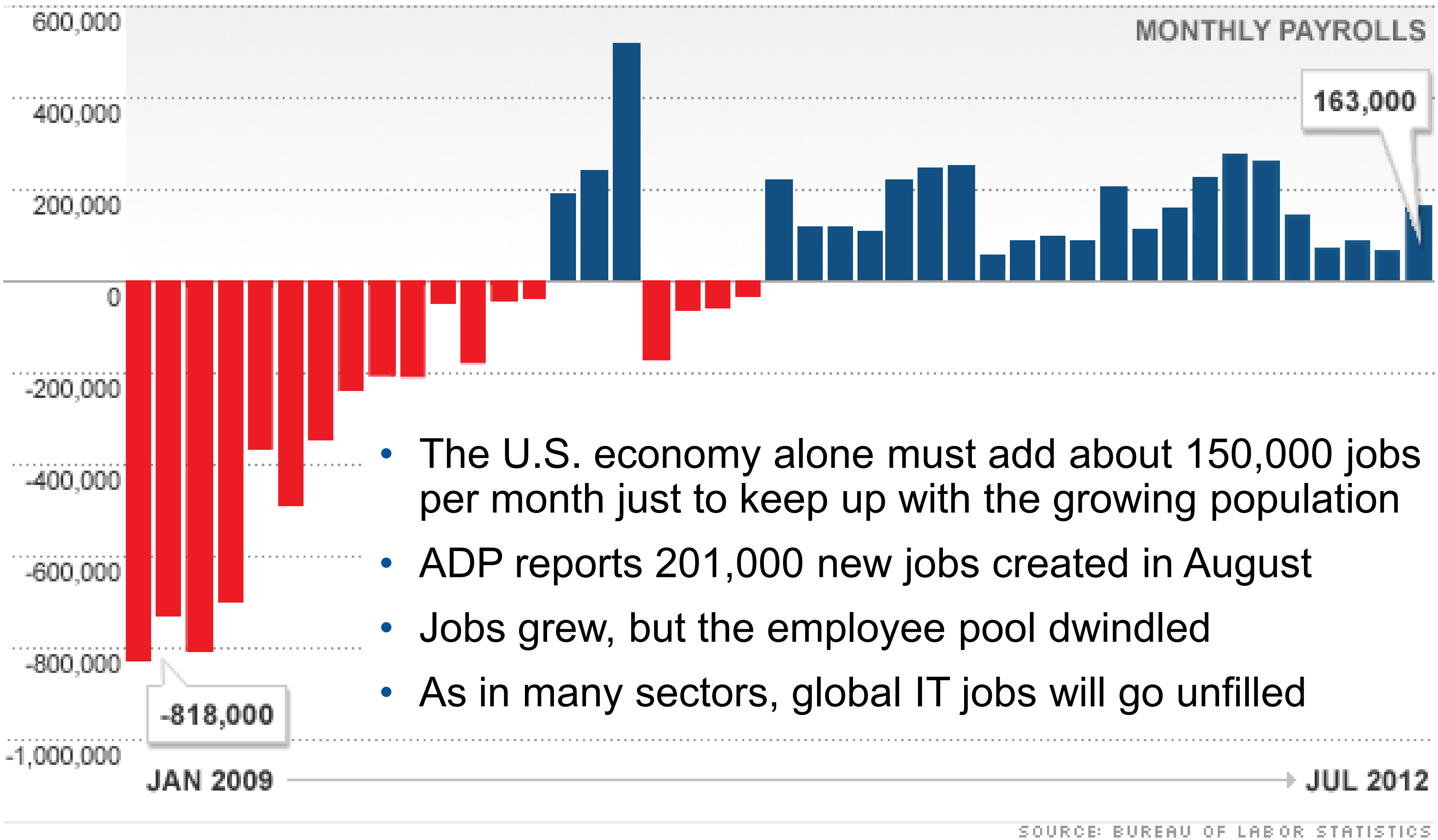
- Privacy
- Security
- Markets



- Operational Technology
- Chinese Ascendance
- MS Windows Future

- Gamification
- Wearable Technology

Jobs Drive Economic Growth and IT Realities



- The U.S. economy alone must add about 150,000 jobs per month just to keep up with the growing population
- ADP reports 201,000 new jobs created in August
- Jobs grew, but the employee pool dwindled
- As in many sectors, global IT jobs will go unfilled

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Economic Impact: The Growth of Data

By 2015, big data demand will reach 4.4 million jobs globally, but only one-third of those jobs will be filled

Why?

- The IT workforce is gaining new roles bridging IT and the business
- Big data roles include business analysts, chief data officers, data scientists, legal/IT professionals, and in IT information architects, data stewards, etc.
- Advanced information management/analytics skills and business expertise are needed.

What it means?

- Globally, companies will hire many business information experts to support growing volume, variety and velocity of data.
- The demand for big data services spending projected to reach 132.3B$ in 2015.
- The demand for services will generate 550k external services jobs in the next 3 years.
- Another 40,000 jobs will be created at software vendors in the next 3 years.

What to do?

➔ ***Enterprises and professionals should target acquiring skills in data analysis of real-time streams across multistructured sources and with high-volume data tools.***

Authors: Regina Casonato, Mark Beyer, Anne Lapkin, James Richardson

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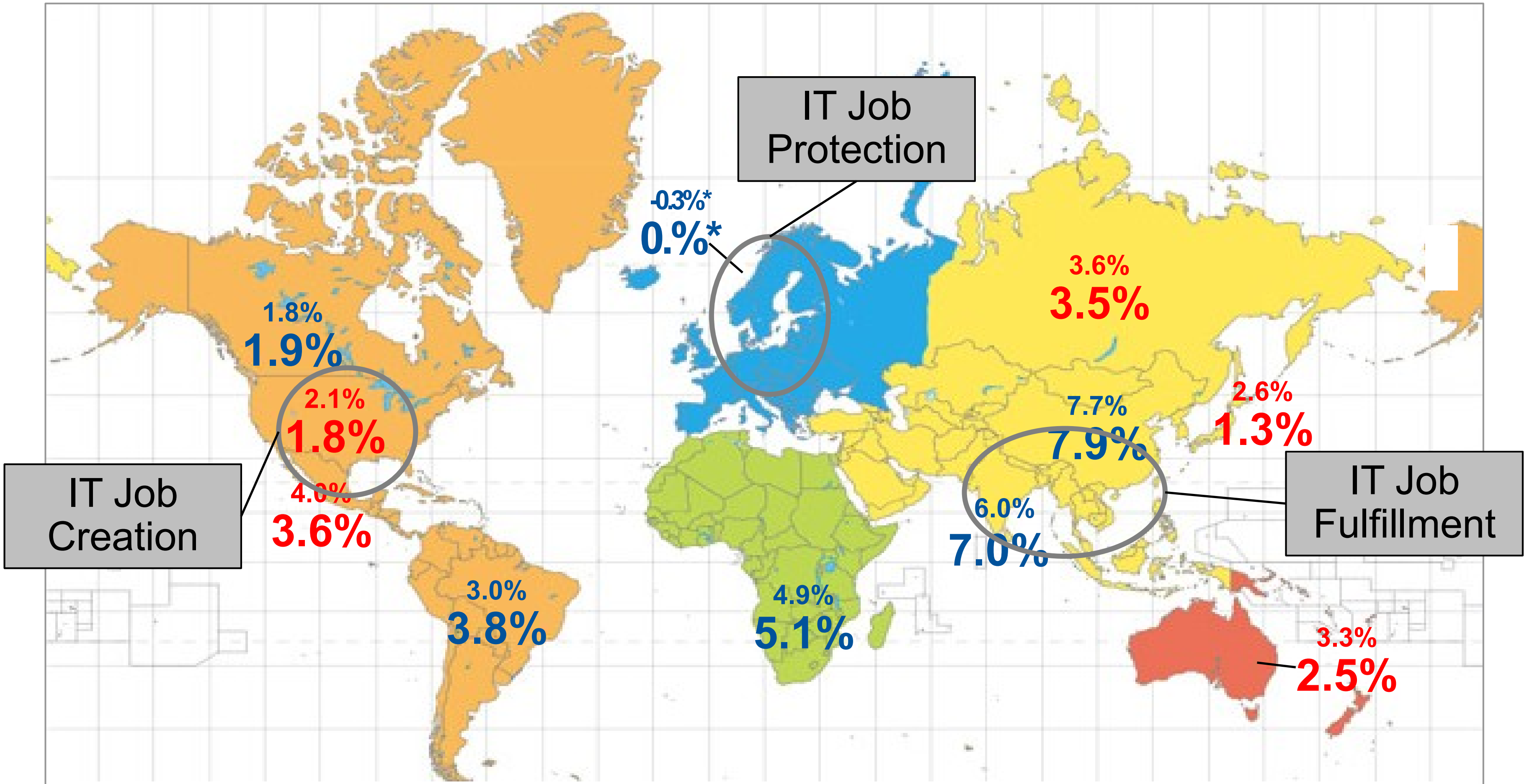
Global GDP Growth Affects and Depends on IT Sector Jobs



Advanced Economies = 1.2% Emerging Economies = 5.3% Developing Economies = 3.2%

Forecast: 2013 vs. 2012 Real GDP Growth = +2.7% +2.6%

Source: IHS Global Insight (August 2012)

Note: Smaller-sized numbers show GDP growth in 2012 versus 2011

*= European Union

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Economic Impact: Protectionism Rebalances Labor Distribution

By 2014 European Union directives will drive legislation to protect jobs, reducing offshoring by 20% through 2016

Why?

- Continuing upward trend in unemployment in the European Union
- Member States recording consistent rises through the year to March 2012 (Greece, Spain, Cyprus, Portugal and Italy at top)
- There is significant gap of 4% to 12% unemployment rates among EU labor markets

What it means?

- Job protectionism will emerge with little expectation of a short-term recovery.
- Non-EU European countries (e.g., Norway and Switzerland) may seek to follow to help economic recovery.
- Organizations won't abandon Global Delivery Models, but it would result in rebalancing where labor is sourced.

What to do?

➔ ***Firms should seek to invest further in lower cost parts of Europe, or within their domestic location (e.g., moving more work outside of London and Southeast England to the north of England, Scotland, Wales and Northern Ireland where costs are lower).***

Author: Ian Marriott

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Economic Impact: Larger GDP Drives Hiring

By 2014, IT hiring in major western markets will come predominantly from Asian-headquartered companies enjoying double-digit growth.

Why?

- Projections of GDP growth through 2015 identify a significant gap between Asia/Pacific and the more mature markets of North America and Western Europe.
- Asian companies with double-digit growth rates increase hiring of IT professionals while Western companies are still coping with the economic crisis.

What it means?

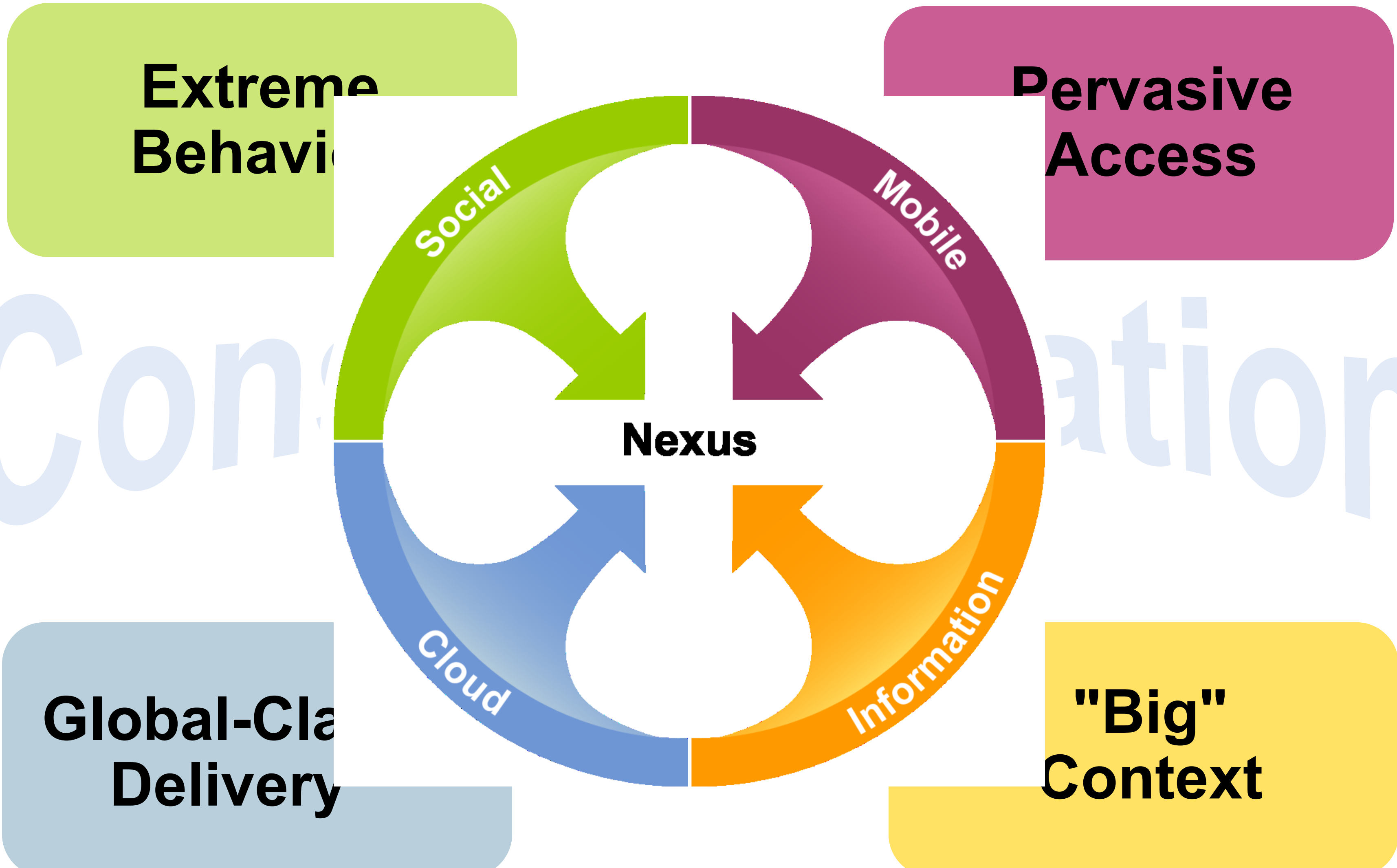
- Increased usage of industrialized IT solutions (e.g., cloud) will further reduce the IT staffing needs of Western firms.
- While Asian companies will also take advantage of these solutions, they will need to enhance their onshore presence in Western markets and will do so, in part, through IT hires.

What to do?

→ ***IT professionals should seek employment with Asian IT service providers or cloud-based service providers through 2014.***

Author: Ian Marriott

CIOs Cannot Stand Still in the Face of "Major Forces"



Risk: Security and Privacy Controls Are Insufficient

By 2017, 40% of enterprise contact information will have leaked into Facebook via employees' increased use of mobile device collaboration applications.

Why?

- Facebook is one of the top 5 applications installed on smartphones and tablets.
- Apple's email and PIM can be connected to enterprise Exchange through Exchange Activesync.
- Microsoft's Social Connector for Outlook permits integration with Facebook and others.
- Application integration and seamless movement of information from applications to Facebook now both automatic and invisible.

What it means?

- Many organizations being pressured to permit interlinking with Facebook and similar products because those products provide a high degree of leverage for new contacts.
- Mobile Device Management (MDM) products implement policies that prohibit the transfer of data like email.
- The user will demand looser controls to work more effectively and override IT.

What to do?

➔ ***Given the complexities of automated control, few solutions, save complete lockdown, are available, so enterprise code of conduct policies must be revised to hold users responsible for the loss of enterprise contact information.***

Author: Ken Dulaney

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Risk: Freedom Comes at a Price

Through 2014, employee-owned devices will be compromised by malware at more than double the rate of corporate-owned devices.

Why?

- 3% to 5% of corporate endpoints are compromised by malware.
- 20% of consumer-grade endpoints are compromised by malware.
- The difference is due to weaker security protection in home networks and to the weak security skills of most consumers.
- Some consumer devices will affect corporate networks.

What it means?

- The Nexus is loaded with risk, like loss of sensitive intellectual property, due to attackers controlling consumer endpoints behind the corporate firewall.
- Corporate networks will become more like college and university BYOD networks.
- The increased malware threat accelerates advanced malware detection techniques.

What to do?

➔ ***At least one-third of the money saved from BYOD programs should be reinvested in security initiatives aimed at detecting and preventing the spread of malware.***

Author: Lawrence Orans

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Successful CIOS and IT Departments Must Get Ahead, Not Just Catch Up!

Opportunity: Building Connected Devices and Operational Technology

Through 2014, software spending resulting from the proliferation of smart operational technology will increase by 25%.

Why?

- Previously "dumb" devices or objects now have software embedded inside.
- Sensors create and receive Internet data streams.
- Machines can self-monitor and correct or replenish supply.
- Device-to-device communication is increasing and will trigger significant new software costs.

What it means?

- Higher volumes of embedded software across a wide range of devices.
- Vendor licensing schemes are charging for devices that hit their systems or applications.
- Machines trigger more fees faster.
- Non-IT users trigger fees unknowingly.

What to do?

➔ ***Vendors will need to rework licensing schemes to recognize that volume of transactions will grow. Users need to monitor use of machine transactions that trigger fees.***

Author: Alexa Bona, Kristian Steenstrup

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Innovation: Play Games to Enhance Work

By 2015, 40% of Global 1000 organizations will use gamification as the primary mechanism to transform business operations.

Why?

- 70% of business transformation efforts fail due to lack of engagement.
- Gamification addresses engagement, transparency of work and connecting employees' actions to business outcomes.
- Companies apply feedback, measurement and incentives — the same techniques that game designers use to keep game players interested.

What it means?

- A wide cross-section of industry segments are already finding gamification is effective.
- The computer games industry puts a lot of thought into how to "engage" game players and keep the game interesting.
- Forecasts show gamification in 2012 to reach $242 million and climb to $2.8 billion by 2016 — with enterprise gamification eclipsing consumer gamification revenue in 2013.

What to do?

➔ ***Understand what works in a particular culture and plan for iterations and upping the "game" to avoid fatigue and foster continued engagement.***

Author: Elise Olding

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Information in Context: Augmented Reality Pushes the Envelope

Source: Nokia

Source: MIT Media Lab

- Context-based information at point of decision/action
- Mobile devices with location information at leading edge of augmented reality
- Emerging wearable and glanceable interfaces
- Leveraging learnable moments

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Innovation: Technology Will Be Worn Into and Out of Your Enterprise

Wearable smart electronics in shoes, "tattoos" and accessories emerge as a $10 billion industry by 2016.

Why?

- Wearable smart electronics emerging as wireless devices worn or attached to the body that include a sensor and circuitry to communicate status.
- Wearable electronics will provide $10 billion in product revenue to technology and service providers, with a 24% combined growth rate through 2016.
- The 2012 revenue from wearable smart electronics is estimated to be $4.2 billion.

What it means?

- The majority of revenue from wearable smart electronics over the next four years will come from athletic shoes and fitness tracking, communication devices for the ear, and automatic insulin delivery for diabetics.
- Wearable electronics will provide more detailed information to retailers for targeting advertisements and promotions.
- Healthcare providers gain new insights to tailor medications to the individual.

What to do?

➔ ***CIOs must evaluate how the data from wearable electronics can be used to improve worker productivity, asset tracking and workflow. Medical specialists will need help integrating medical monitoring into their processes.***

Author: Angela McIntyre, Adib Ghubril

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Key Questions for the Future

- Who will be the vendors you rely on in the 21st century?
- *How will markets be changed by the cloud and other nexus strategies?*
- *How will globalization affect strategic adoption of technology?*
- *How will IT respond to an increasingly consumer-led technology world?*

Opportunity: Can Modernization Skip Generations?

90% of enterprises will bypass broad-scale deployment of Windows 8

Why?

- Windows 8 will require the end user be swapped back and forth between two user interfaces. IT will not be able to force Windows 8 to be single mode.
- Even when in full touch mode, a number of Microsoft components will revert back to the legacy interface.
- Windows.next (aka Windows 9) will build on Windows 8 and be a more mature and compelling offer.

What it means?

- Microsoft is modernizing its offering and will push IT organizations to this new interface as quickly as possible. Changing developer mindset will take time.
- The client management structure supporting endpoint devices could radically change. App stores and end-user management will become prominent.
- Properly managing devices is important enough it will delay interest in Windows 8.

What to do?

➔ ***Deploy Windows 8 on tablet slate and convertible form factors in vertical market applications where the worker must perform tasks while standing or walking.***

Author: Ken Dulaney, Steve Kleynhans

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Risk: IT Services and Sourcing

By 2014, market consolidation displaces up to 20% of the top 100 IT services providers

Why?

- By 2015, low-cost cloud services will cannibalize up to 15% of top outsourcing players' revenue.
- By 2015, more than 20% of large IT outsourcers not investing enough in industrialization and value-added services will disappear through merger and acquisition.
- The nexus of forces will multiply the challenges for IT services providers and vendors, leading to change.

What it means?

- It will limit and endanger the typical offshore/nearshore approach run by dedicated IT services providers (like TCS, Infosys, Accenture, …).
- It will create low-cost options onshore or facilitate a globalized approach to staffing.
- It will create a potential for high-value and innovative content that can be "sourced from the Net" and paid on the outcome, not on an employment basis.

What to do?

➔ ***Re-evaluate the providers and types of providers used for IT services, with particular interest in cloud-enabled providers supporting information, mobile and social strategies as well.***

Author: C. Da Rold, G. Tramacere, S. Notardonato

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Opportunity: Mobile and Wireless

By YE14, 3 of the top 5 mobile handset vendors will be Chinese

Why?

- Mobile phone penetration in emerging markets has resulted in a changing of the guard in terms of the leading vendors.
- The openness of Android lets OEMs that previously did not have the necessary software expertise and engineering capabilities enter new markets.
- The smartphone market is moving to mid- and entry-level models partly to limit impact of subsidies on mobile carriers.

What it means?

- Traditional mobile phone players are getting squeezed in the middle of the market by aggressive new Android vendors, most notably Huawei and ZTE.
- Carriers will convert a subscriber to a higher ARPU smartphone data plan with as little subsidy impact as possible.
- Chinese vendors will leverage their strong entry-level model position in domestic Chinese markets to expand to other regions.

What to do?

➔ ***Mobile carriers: Consider emerging Chinese brands for both low-cost and midrange smartphone solutions. Component suppliers: Secure business with Chinese brands over traditional vendors, with the exception of Apple and Samsung.***

Author: Jon Erenson

Summary/Recommendations

- ✓ Predictions are milestone markers. They foretell direction and distance. Each organization has to focus on a destination.
- ✓ Don't just create jobs. Fill them with new skills.
- ✓ Never ignore the risks of the nexus.
- ✓ Seek opportunities outside traditional markets.
- ✓ Innovation is gated by how far you are willing to suspend your disbelief.

Recommended Gartner Research

- **Gartner's Top Predictions for IT Organizations and Users, 2012 and Beyond: Control Slips Away**
  Daryl C. Plummer, Stephen Prentice and others (G00226767)
- **Top Industry Predicts 2012: Industries Face Intensified Consumerization and Technology Disruption**
  Kimberly Harris-Ferrante (G00226058)
- ***Predicts Landing Page on Gartner.com***
- **Gartner's Top Predictions for IT Organizations and Users, 2011 and Beyond: IT's Growing Transparency**
  Daryl C. Plummer, Brian Gammage and others (G00208367)

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