The Information Technology and Innovation Foundation (ITIF) is a Washington, D.C.-based think tank at the cutting edge of designing innovation policies and exploring how advances in information technology will create new opportunities to boost economic growth and improve quality of life. ITIF focuses on:

- Innovation processes, policy, and metrics
- E-commerce, e-government, e-voting, e-health
- IT and economic productivity
- Science policy related to economic growth
- Innovation and trade policy
Today’s Presentation

1. What’s the Challenge and Why Innovation is an Answer
2. What is Innovation?
3. Where’s the Federal Government?
4. Why is Innovation So Difficult?
5. What are the Federal Opportunities?
6. Leading Innovation
What’s the Challenge?
What’s the Challenge?
What’s the Answer? Innovation

Innovation Can Cut Costs

- The Tech CEO Council estimates that better use of IT could save the federal government over $1 trillion by 2020

Innovation Can Boost Citizen Satisfaction
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What is Innovation?

To innovate is... to challenge and change the status quo to enhance the customer’s experience and bring new value to them.
Innovation is Different from Quality—and Comes in Different Degrees

**Improving what you already do**

**quality**
- systems-centric
- process-centric
- improvement-oriented

**Exploiting known certainties**

**incremental**

**Architectural** innovations involve incorporating new technology and processes to change business elements.

**Creating new elements of value and differentiation**

**discontinuous**

**Exploring unknown possibilities**

**Incremental** innovations involve small improvements to an existing product or process to enhance efficiency.

**Discontinuous** innovations occur when an advance is so powerful, it makes old products or processes obsolete.

Degrees of innovation

modest change  degree of change  radical change
# There are Ten Types of Innovation

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<tbody>
<tr>
<td>how the enterprise makes money</td>
<td>enterprise’s structure/value chain</td>
<td>assembled capabilities</td>
<td>proprietary processes that add value</td>
<td>basic features, performance and functionality</td>
<td>extended system that surrounds an offering</td>
<td>how you service your customers</td>
<td>how you connect your offerings to your customers</td>
<td>how you express your offering’s benefit to customers</td>
<td>how you create an overall experience for customers</td>
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</tbody>
</table>

- **Finance**
  - Business model
  - Networking

- **Process**
  - Enabling process
  - Core process

- **Offering**
  - Service/Prod. performance
  - Svc/prod system

- **Delivery**
  - Channel
  - Brand
  - Customer experience

“Ten types of Innovation” by Larry Keeley/Doblin Inc.
What Are the Consequences of Not Innovating?

1. Failure to meet rising customer expectations.

2. Risk of losing the best talent.

3. Risk of losing new revenue opportunities.

4. Risk of getting “Baumol’s Disease” (low productivity, high costs).
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Federal IT Challenges

Customer-facing challenges:

- Too many web sites still hard to use
- Too many web sites still organized around agencies and bureaus
Users Rate E-gov Websites Lower Than E-commerce Sites

The Range of Satisfaction is Higher for E-gov Sites

Federal IT Challenges

- **Customer-facing challenges:**
  - Too many web sites still hard to use
  - Too many web sites still organized around agencies and bureaus

- **Internal Challenges:**
  - Considerable duplication of applications instead of widespread shared services
  - Gap (growing?) between commercial best practice and current government practice (e.g. slow to move to the cloud).
Federal IT Challenges

- Customer-facing challenges:
  - Too many web sites still hard to use
  - Too many web sites still organized around agencies and bureaus

- Internal Challenges:
  - Considerable duplication of applications instead of widespread shared services
  - Gap (growing?) between commercial best practice and current government practice (e.g. slow to move to the cloud).

- Overall Challenge:
  - No systemic focus on driving automation and productivity
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Innovation is Challenging, Rare, and Often Frightening

Hey, let's innovate!
Innovation Isn’t Easy – Some Puzzles to Ponder

Why didn’t IBM keep the operating system?
Why didn’t Microsoft create the browser?
Why didn’t AT&T create AOL?
Why didn’t American Airlines create Southwest?
Why didn’t Citibank create PayPal?
Why didn’t Blockbuster create Netflix?
Why didn’t Sam Goody’s create iTunes?

- It takes effort to stand in the future and see new possibilities.
- Just because you’re not willing to disrupt your own business, doesn’t mean someone else isn’t willing to do it for you.
The Innovator’s Challenge is to **Exploit** and **Explore** Simultaneously

<table>
<thead>
<tr>
<th><strong>Research</strong></th>
<th><strong>Exploit</strong> Incremental</th>
<th><strong>Explore</strong> Architectural</th>
<th><strong>Discontinuous</strong></th>
<th>Game-Changing Innovations</th>
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<tbody>
<tr>
<td></td>
<td>Typically found within your core business</td>
<td>Originate from discovery-oriented activities</td>
<td>Often found at the margins of your core business</td>
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<tr>
<td></td>
<td>Originate from continuous improvement efforts</td>
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<tr>
<td><strong>Dev</strong></td>
<td>Enabled through OTS components</td>
<td>May require significant enabling technologies</td>
<td>May require coordination across lines of business</td>
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<td></td>
<td>Implemented within a current line of business</td>
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<tr>
<td></td>
<td>External partnerships, if any, are straightforward</td>
<td>Often require major external partnerships</td>
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<tr>
<td><strong>Funding</strong></td>
<td>Fit within your existing business model</td>
<td>May run counter to your current business model</td>
<td>ROI is uncertain but upside potential is significant</td>
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<td>ROI is modest but clear-cut</td>
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IT Investment is Necessary
National Governments Invest More in IT

![Bar graph showing IT$/Share of Revenue comparison between National governments and Average. Source: Gartner, 2011]
National Governments Invest More in IT

Source: Gartner, 2011
Installed TB per Employee

Source: Rubin Worldwide, 2011
But Money is Not Enough

- Firms that adopt *digital organization* tenets and simultaneously invest more in IT have disproportionately higher performance than firms that do not.

- MIT’s Erik Brynjolfsson: “Something unique happens when human capital and other workplace practices are combined with technology.”
Organizational Change is Also Required

A distinct corporate culture and organizational practices are found in most corporations that make extensive use of IT and the Internet. They:

1. Move from paper-based to digital business processes
2. Empower front line service personnel
3. Foster open information access
4. Link incentives to performance
5. Maintain focus and communicate goals
6. Hire the best people
7. Invest in human capital

Erik Brynjolffson
Higher Profitability Accrues to Firms That Get Both Right
McKinsey Finds the Same Result

- There are productivity gains from simply automating processes.
- Yet the biggest productivity gains are achieved when IT investments are combined with changes in business practices.
- This is hard and takes lots of time and effort.

**Source:** LSE – McKinsey survey and analysis of 100 US, UK, French, German companies, 1994-2002
As Does Rubin Worldwide
So Where is the Federal Government?
USG = Japanese Enterprises?
IT investment by asset in OECD countries, 2007, percent of non-residential capital formation
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Opportunities

Data-driven policy
Opportunities

Data-driven policy

IT platforms
Opportunities

Data-driven policy

IT platforms

Partnerships
Partner with Private Sector:

Partnership

freefile
IT’S FAST. IT’S SAFE. IT’S FREE.
- **Partner with private sector:**

**Partnership**

[Freefile logo]

IT’S FAST. IT’S SAFE. IT’S FREE.

**Go it alone**

[Recreation.gov logo]

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Opportunities

- Data-driven policy
- IT platforms
- Partnerships
- Automation
IT Impacts on Public Sector Capabilities

(positive – negative impacts)

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### What’s Different About this New Management Style?

<table>
<thead>
<tr>
<th>2000s leadership style</th>
<th>The new leadership paradigm</th>
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<tbody>
<tr>
<td>Rarely talk about innovation</td>
<td>Speak candidly about innovation challenges</td>
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<tr>
<td>No innovation definition or metrics</td>
<td>Clear definition of risks and rewards</td>
</tr>
<tr>
<td>No leadership time spent on innovation</td>
<td>Leaders spend hands-on time</td>
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<tr>
<td>Leadership style is directive: “Make it happen”</td>
<td>Inspiration and collaboration: “We can do it”</td>
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Managers Must Lead Innovation Differently

- Created a strategic design capability in every BU
- Requires that 50% of new innovations come from outside the company
- Measures BU leaders on “courage” to drive out-year revenue growth
- Uses Six Sigma (quality) savings to fund innovation investments
- Implemented a Run/Grow/Transform strategy
Poll Question:

What Should the Role of Federal CIOs Be?

1. Steward
2. Strategist
3. Revolutionary
Deloitte: September, 2011 (survey of 1000 IT executives: How do you view your CIO?)
Can the Government Learn to Fail Fast?

Great idea man. It can’t possibly fail. Let’s quit our job and buy lots of server to handle the load.
Companies Can

The Pretotyping Effect

Without Pretotyping

With Pretotyping

Alberto Savoia - asavoia@google.com
“We have to strike the right balance between being in touch and being in control. The irony is that the more in control we are, the more out of touch we become.”

- A.G. Lafley, CEO Proctor and Gamble
**Striking the Right Balance**

Successful innovation requires marrying Passion, Permission, and Protocols

**Senior management:**
- Declares an innovation intent
- Sets conditions for innovation

**Your people:**
- Have the passion, they just need the proper channels to unleash it.

**The organization:**
- Establishes processes to support innovation.
Thank You

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