September 21, 2016

Innovation and Public Sector Reform

U. MD-ESAN University Program

Stephen Ezell, Vice President, Global Innovation Policy
Information Technology and Innovation Foundation

ITIF is a public policy think tank committed to articulating and advancing a pro-productivity, pro-innovation, and pro-technology public policy agenda internationally, in Washington, and in the states. ITIF focuses on:

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

ITIF
The Information Technology & Innovation Foundation

Today's Presentation

1. What is Innovation and Why Does it Matter?
2. Innovating in Government
3. Innovating at the Firm (Organizational)-Level
4. Principles to Maximize Global-Level Innovation

Innovation Isn't Easy…Some Puzzles to Ponder…

Why didn't IBM keep the operating system?

Why didn't Western Union buy the telephone?

Why didn't Microsoft create the browser?

Why didn't Netscape create the search engine?

Why didn't AT&T create AOL?

Why didn't Sears create Wal-Mart?

Why didn't American Airlines create Southwest?

Why didn't Citibank create PayPal?

It takes effort to stand in the future and see new possibilities.

Just because you aren't willing to disrupt your own business, doesn't mean somebody isn't willing to do it for you.

Many companies don't sense the need to innovate until it's too late.

"There is nothing more difficult to execute, nor more dubious of success, nor more dangerous to administer than to introduce a new system of things, ***for he who introduces it has all those who profit from the old system as his enemies, and he has only lukewarm allies in those who might profit from the new system****."*

- Machiavelli, The Prince

What is Innovation?

Innovation—The improvement of existing or the creation of entirely new products, processes, or services. (*The Economist*)

Innovation—The transformation of existing conditions into preferred ones. (John Kao)

What is Innovation?

Refining the Definition of Innovation

New viable business *concept*

Not just a good idea, or anything new

Not just about *value creation* but *value capture*

Value creation without value capture is meaningless to the firm

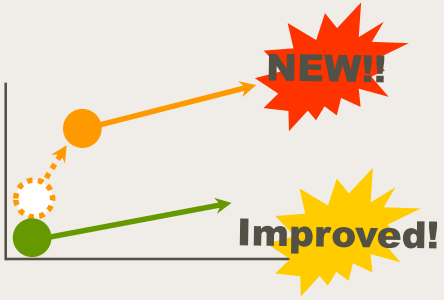
Different *types*

Not just products and services, innovation can occur also in processes, customer experiences, business models and others

Different *degrees*

Most are improvements to known offerings:
sustaining innovations–current game

Some are entirely new concepts:
disruptive innovations–new game



Innovation Myths Mess With Success

1. Innovation is expensive, demanding lots of resources…

Failure to innovate is what is costly…

2. Innovation is risky….

Failure to innovate is what is risky…

3. Innovation is about creating a hot new product or service…

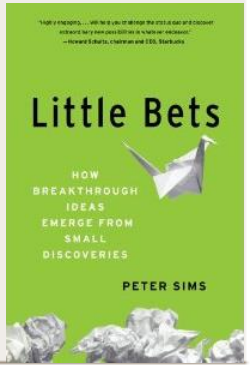
New products and services are swiftly copied and rarely enjoy sustained profits…

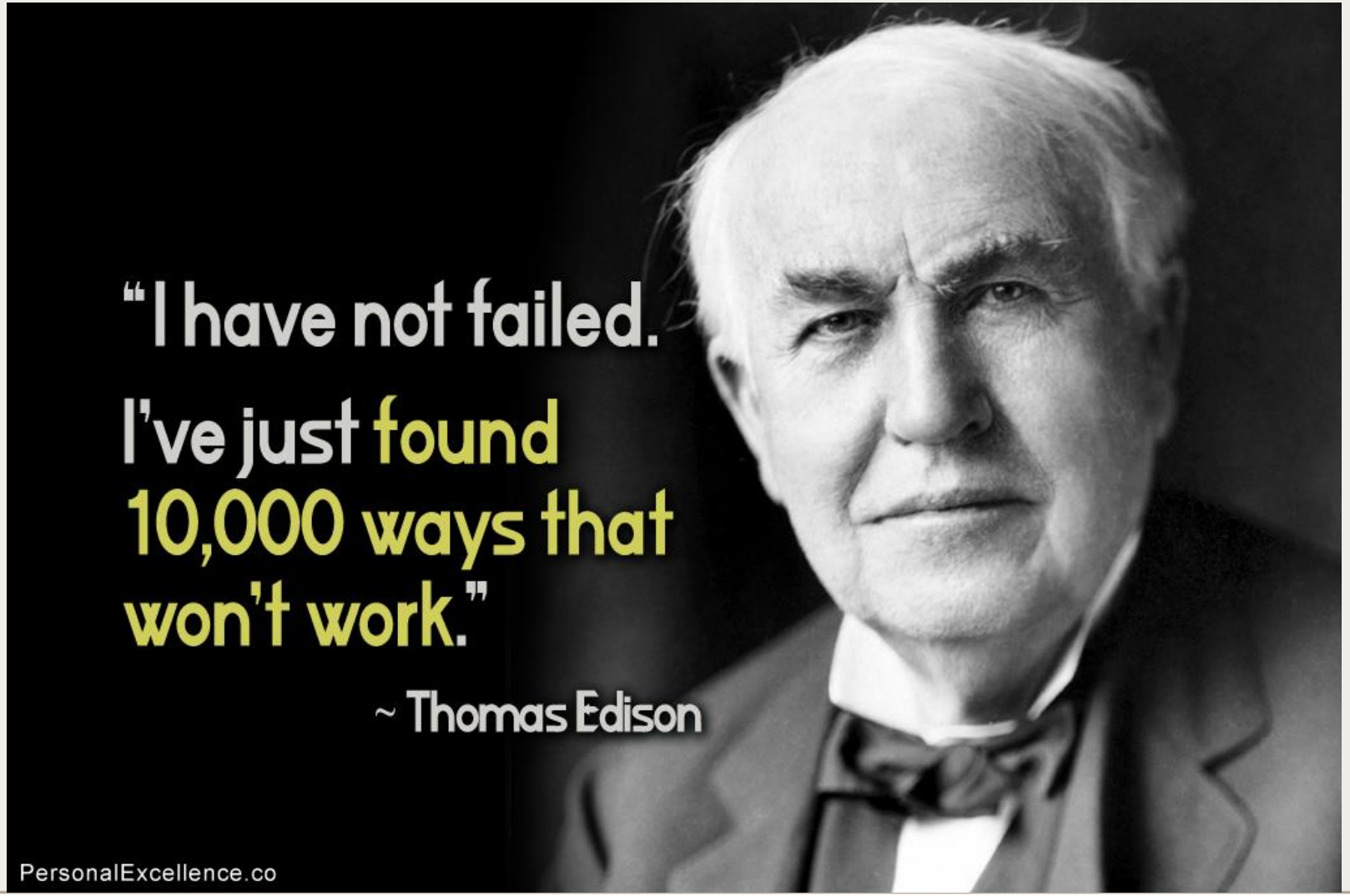
4. Create hundreds of ideas because of high failure rates…

Fewer, bolder ideas based on your company's capabilities and the unmet customer needs you discover work best…

5. Failure is unacceptable.

Failure has value so long as it generates useful learning.




"I have not failed.
I've just found
10,000 ways that
won't work."
~ Thomas Edison
PersonalExcellence.co

Why Does Innovation Matter?

Because it Drives Nations' Economic Growth:

- Technological innovation explains two-thirds of U.S. economic growth since World War II
- 90 percent of the variation in the growth of income per worker across countries is attributable to innovation.

Today's Presentation

1. What is Innovation and Why Does it Matter?
2. Innovating in Government
3. Innovating at the Firm (Organizational)-Level
4. Principles to Maximize Global-Level Innovation

The Unique Challenges of Innovating in Government

1. Lack of “demand” for innovation; lack of animating “competitive forces” that drive innovation in the private sector.

2. Incentives for innovation missing…likely punishment for failure… but few rewards for success.

3. Fear of failure/a “got-cha-ism” mentality from politicians.

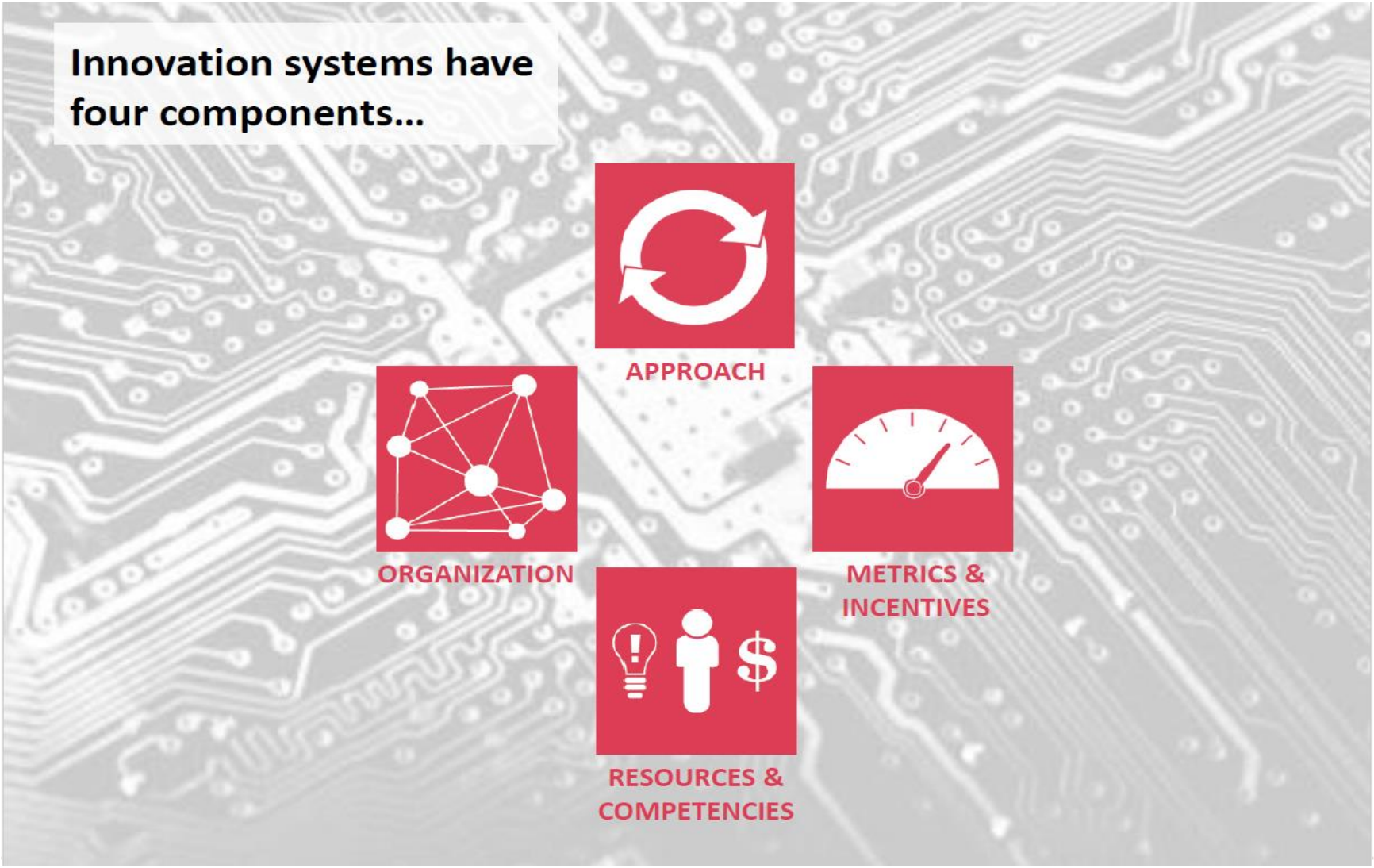
4. Lack of skills/knowledge about innovation tools/mechanisms

5. Limited capital for “internal” venturing investing.

Other Unique Barriers to Innovating in Government

- Procurement rules make it more difficult to work with innovative start-ups (E.g. biased against companies without a proven track record!)
- Inadequate metrics/incentives for innovation initiatives/efforts.
- Poor storytelling capabilities.
- Inadequate understanding of how to use digital/mobile tools.
- Outdated or non-existent collaboration tools.

Organizations Need Innovation Systems to Address This



Organization: A Governance Model/System for Federal Innovation

1. Have access to an Innovation "Incubator" or "Hothouse" somewhere within the government. Access to innovation skills.
   E.g., US "18F" or UK Government Digital Services (GDS)

2. Put innovation in the strategic plans/agendas of all agencies.
   (E.g. Dep. Transportation & ITS; Dep. Energy & Smart Grids/Meters)

3. Appoint a Chief Innovation Officer (CIO) for every agency.

4. Incorporate innovation into each agency's mission/charter.

5. Establish an "Office of Innovation Review" within the government.
   (Mission to screen the impact of laws/regulations on innovation).

Resources, Tools, Best Practices in Federal Innovation

1. Innovation “seed funds” so agencies can have an easier time launching innovative initiatives.

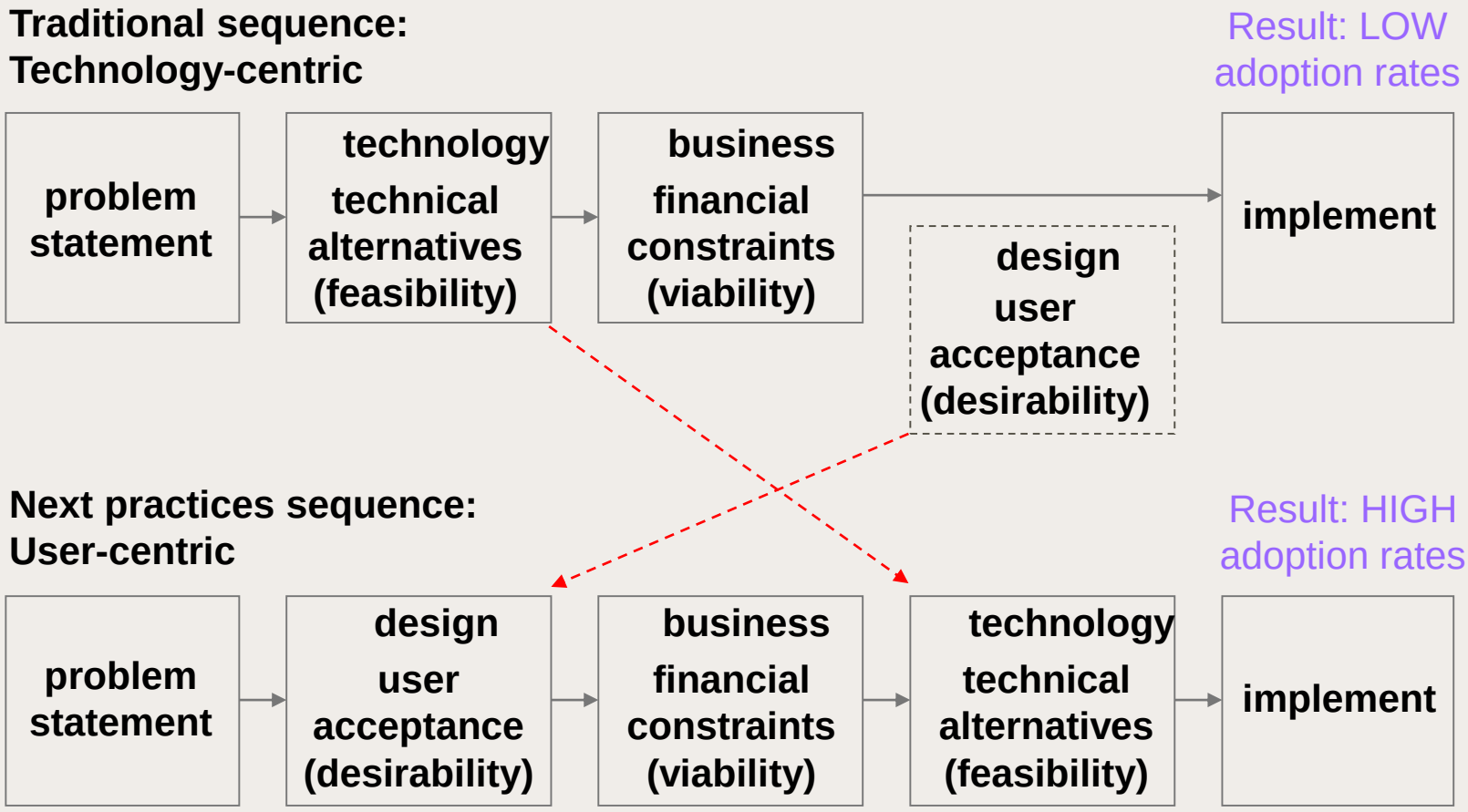
2. Create a Kickstarter for cross-government IT concepts.

3. Create an “Innocentive” or “NineSigma” like innovation-intermediary platform for government.

4. Develop a cross-government “innovation best practices” and case study sharing system.

5. Use “Design Thinking” principles in the development of IT systems and platforms.

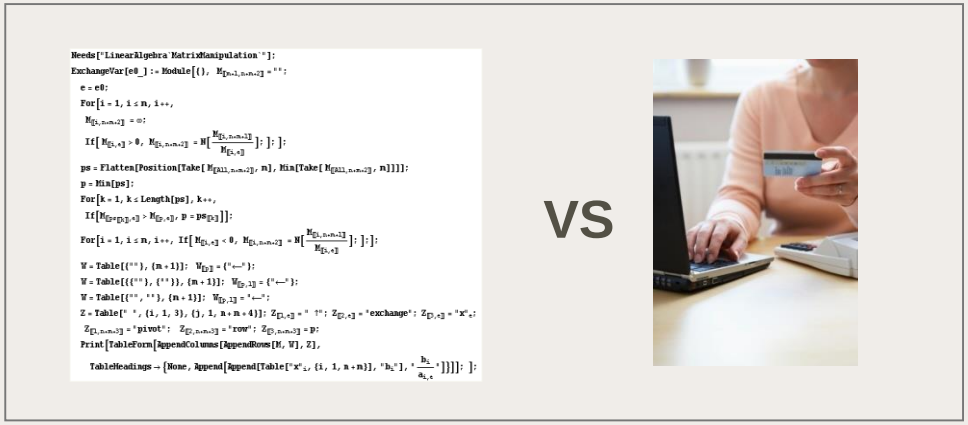
Use "Design Thinking" to Anchor IT Architectures



Source: "Design Thinking for IT-Mediated Service Innovation," Nigel Melville, University of Michigan and Jeneanne M. Rae, Peer Insight (2008).

Co-Create the IT Solution with Citizens

- A common failure mode for IT-mediated services is the hand-off from the design team to the IT development phase.
- The firm iRise makes visualization software to enable companies and their customers to visualize IT-mediated solutions that are virtually identical to a final product, without writing a single line of code.
- IRise generates visual screen shots and alternative work flows before their eyes, and when the users see what they want, they press the “freeze” button and iRise generates the coding template.



Source: Peer Insight

Principles for Innovation Culture in Government Agencies

1. Accept “good” risk-taking and train senior managers in understanding the nature and process of innovation.

2. Adopt a “fail fast” to “succeed sooner” mentality.

3. Adopt a common vocabulary for innovation inside federal agencies.

4. Craft cultures of employee engagement.

5. Move away from IT departments and Chief Information Officers who reflexively say “NO!”

Metrics for Innovation in Government Agencies

1. Make “Innovation” an explicit Performance Expectation for all senior officials in government agencies.

2. Year-end performance reviews should measure senior leaders on “Courage” and “Innovativeness” in leading their agencies.

3. Have all agencies report their “10 Best Innovations of the Year.”

4. Establish Federal “Awards” for the most innovation agencies and the most innovative new service offerings for citizens
   E.g. give recognition to your innovators.

Policy Tools for Governments to Be More Innovative

1. Leverage the “power of the purse”; use government procurement activity as a force for innovation.

2. Set aside a specific share of each agency budget to “innovation-oriented” initiatives. E.g. 5% of health budget goes to Health IT systems; 5% of transportation goes to “ITS” not to asphalt.

3. Greater use of prizes to incent private-sector innovation.

4. Embrace “open innovation principles” and unleash government data as a platform for innovation.

5. Embrace “open data” principles and open APIs so outside developers can build applications that interact with government systems.

Senior Executives Must Lead Innovation Differently

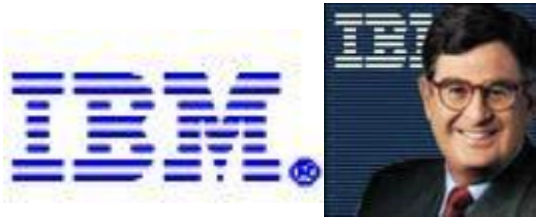
70/20/10 – Core/Adjacencies/ Radical Innovation Model

20% time on innovations

Radically ambitious goal: "Organize all the world's information and make it useful"

Measures BU leaders on "courage" to drive out-year revenue growth

Use Six Sigma (quality) savings to fund innovation investments



$100 million fund to support Innovation Jam concepts

Emerging Business Opportunities Group

First of Its Kind Innovation Efforts

An Organizational "Innovation Operating Model"

Innovation philosophy … *what our beliefs are about innovation*

Innovation strategy … *how it must support the business*

Innovation metrics … *how we will know if it is working*

Primary focus… *e.g., incremental vs. breakthrough*

Resource levels … *how innovation will be funded and staffed*

Structural model … *where the assets will reside*

Governance … *how decisions will be made*

Priorities … *which opportunities to address*

Portfolio management … *how we will balance projects*

Project execution … *what methods will be used*

Access to IT … *how the projects will access IT resources*

Source: Doblin Inc.

© Cuthbertson, Ezell, Furseth, 2013.

Can Your Agency Answer These Innovation Questions?

Do I know my organization's innovation track record?

Do I understand the innovation patterns in my category?

Do I have clear metrics and measures for innovation?

Do I have effective incentives and rewards for innovating?

Do I have any proprietary technologies or processes to leverage?

What platforms do I own? Which others do I support?

What research should I be doing?

What do I understand about my customers that competitors don't?

What emerging patterns of customer needs exist?

Are the products and services in my pipeline good enough?

Question:

Do you have positive answers to the questions above?

Source: Doblin Inc.

Today's Presentation

1. What is Innovation and Why Does it Matter?
2. Innovating in Government
3. Innovating at the Firm (Organizational)-Level
4. Principles to Maximize Global-Level Innovation

There are Ten Types of Innovation[1]

1. Business model
how the enterprise makes money

2. Networking
enterprise's structure/ value chain

3. Innovation process
how your firm organizes to innovate

4. Core process
proprietary processes that add value

5. Product performance
basic features, performance and functionality

6. Product system
extended system that surrounds an offering

7. Service
how you service your customers

8. Channel
how you connect your offerings to your customers

9. Brand
how you express your offering's benefit to customers

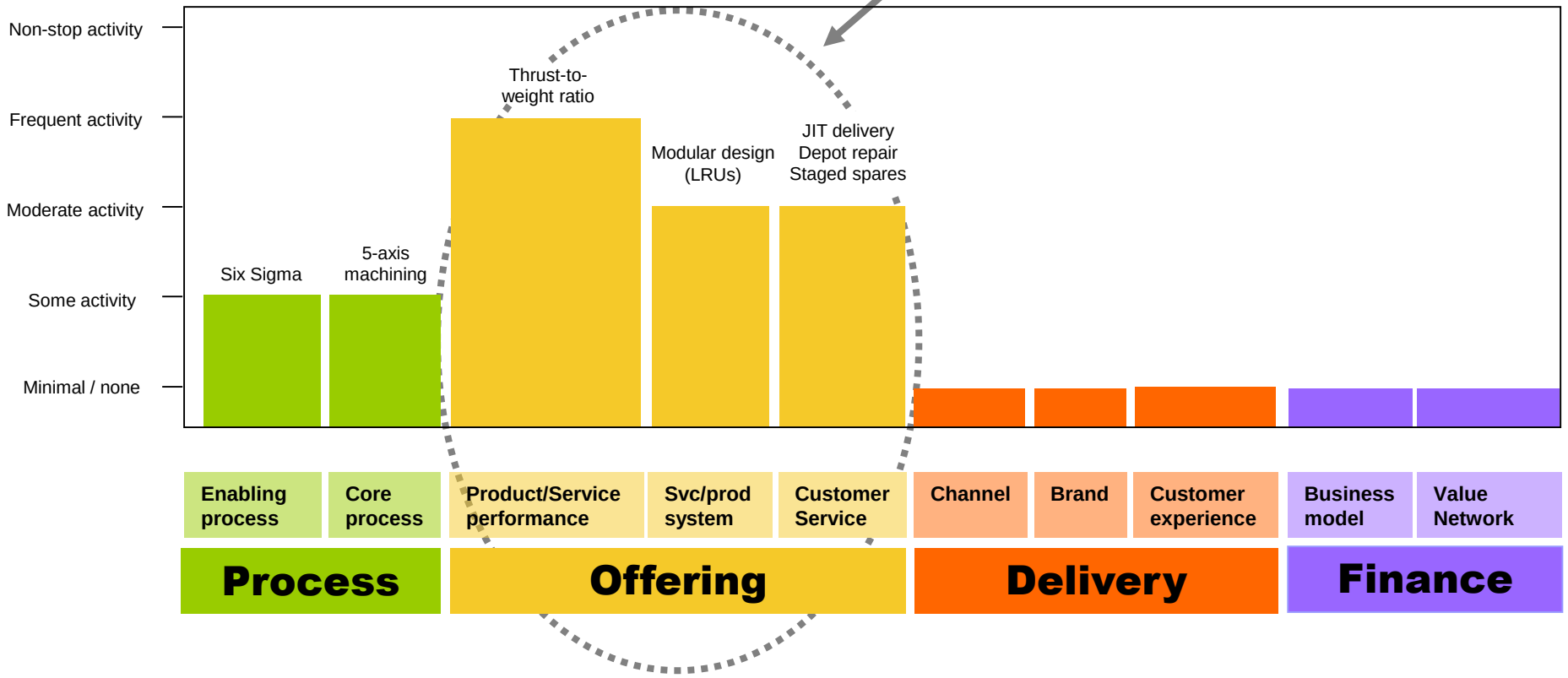
10. Customer experience
how you create an overall experience for customers

Finance		Process		Offering			Delivery		
Business model	Networking	Innovation process	Core process	Service/prod. performance	Svc/prod system	Service	Channel	Brand	Customer experience

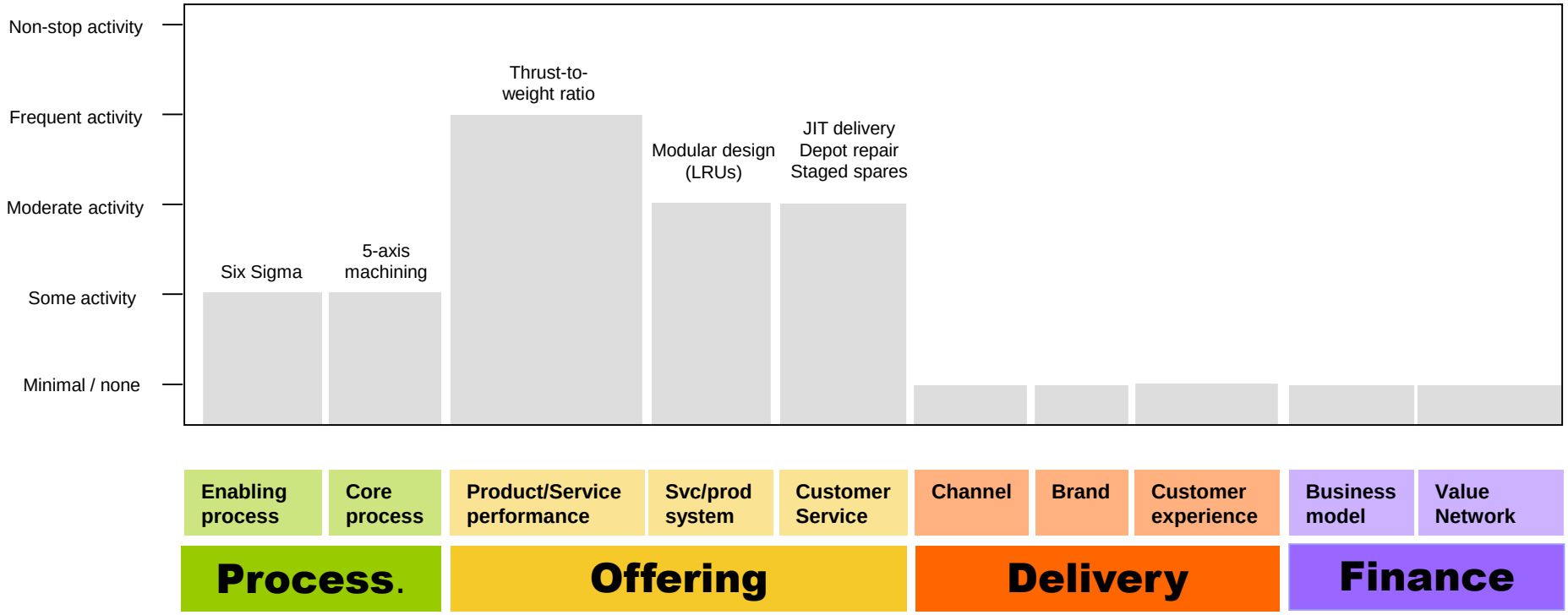
Note[1]: "Ten types of Innovation" by Larry Keeley/Doblin Inc.

Consider how the jet engine market engaged in "feature warfare" during the 2000s

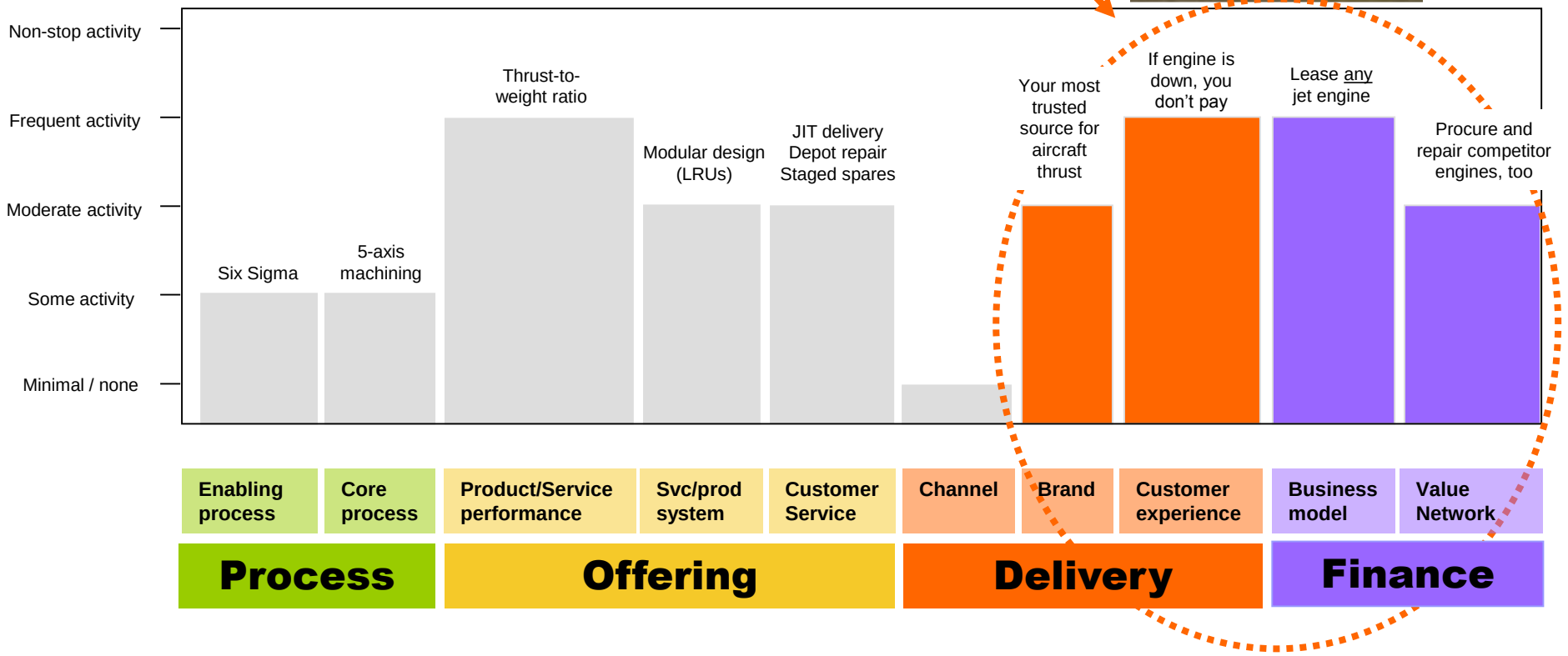
Most competitive activity in the jet engine industry was focused here



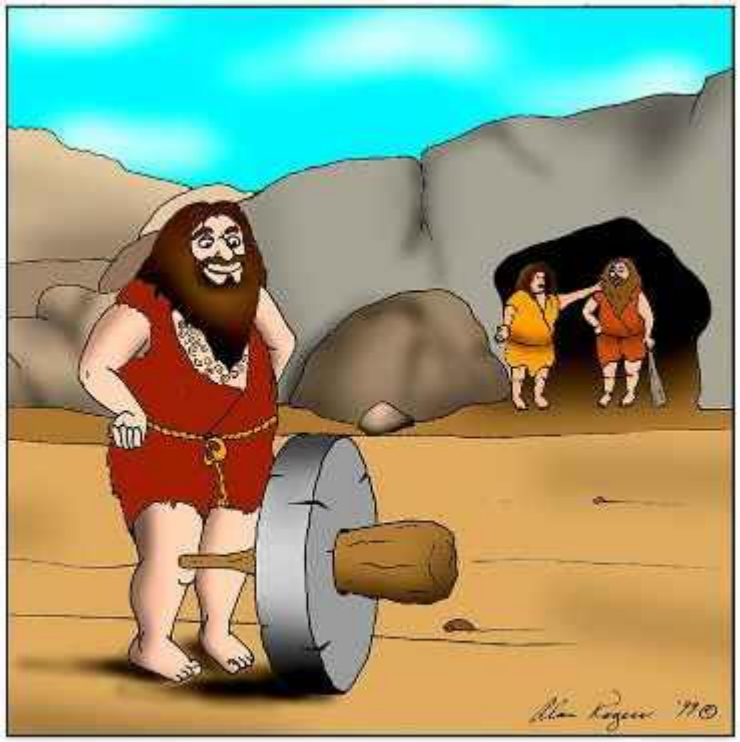
So Where is the White Space?



GE Power became #1 by leasing jet engines to airlines, getting paid only for uptime … in effect, they sell "guaranteed thrust"

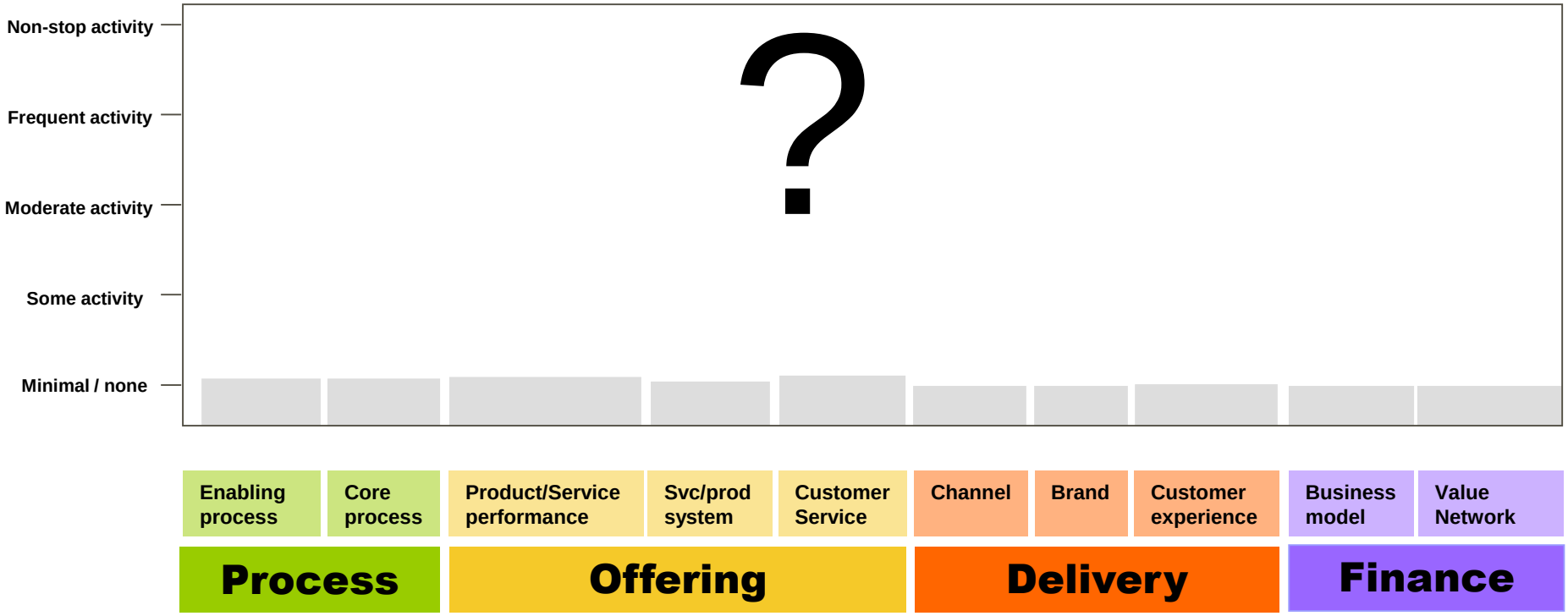


How Can We Innovate on This?



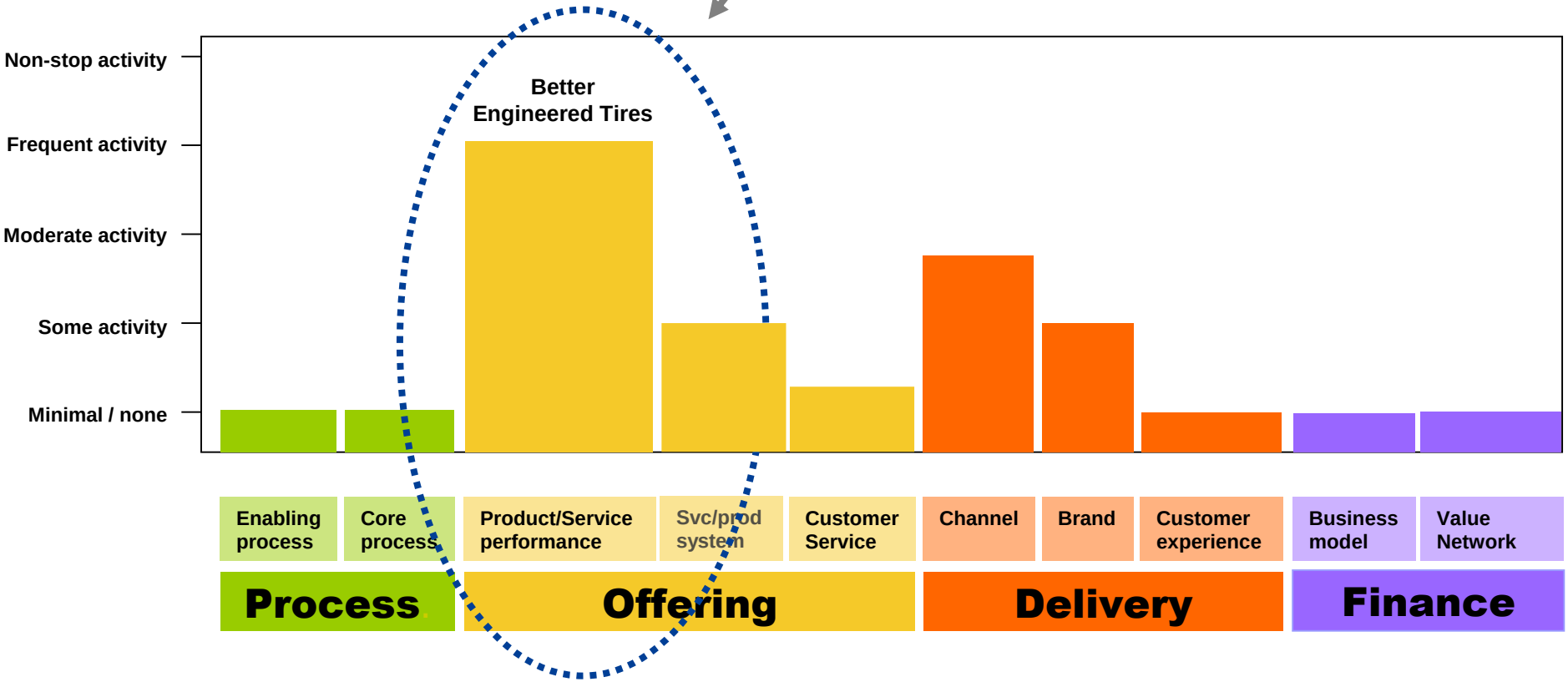
"Oh look, Thog got "The Club" and now nobody can steal his wheel."

Let's Do An Example:
Where's the Innovation in Auto Tires?



Global competition in the automobile tire industry (2000s)

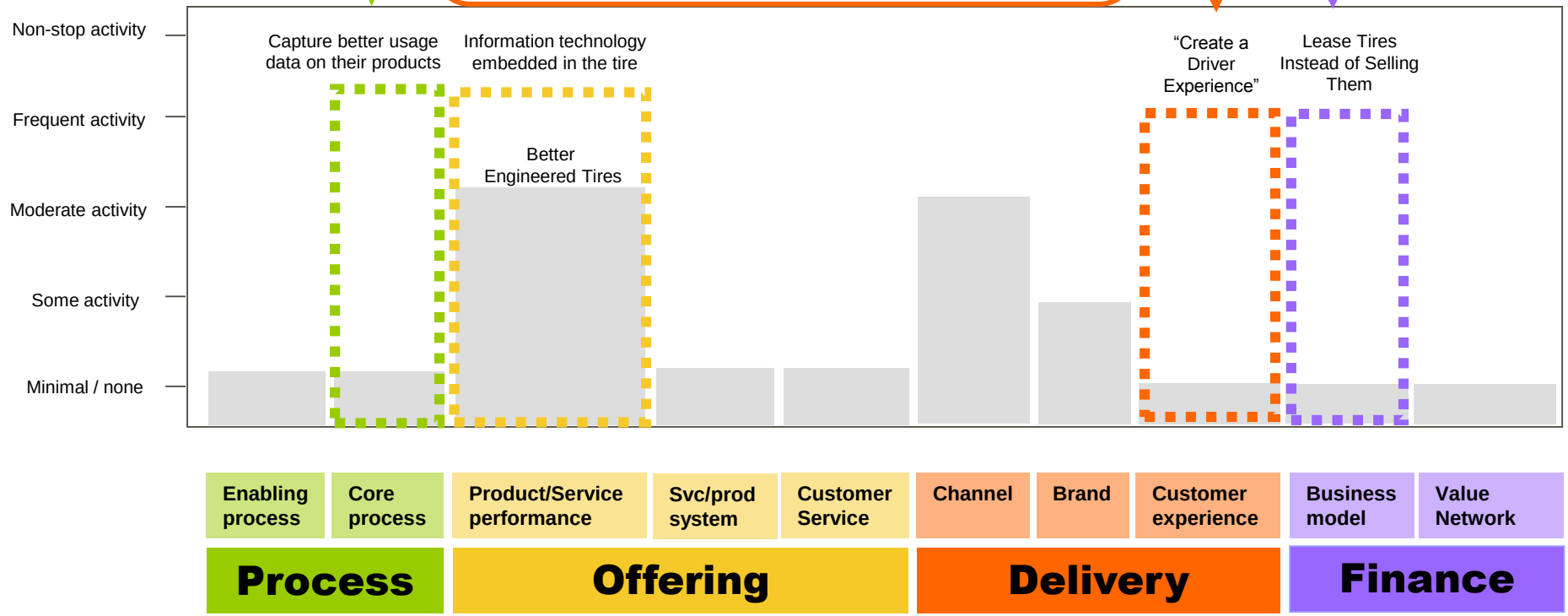
Most competitive activity in the tire industry has been here. Price pressures have led to commoditization.



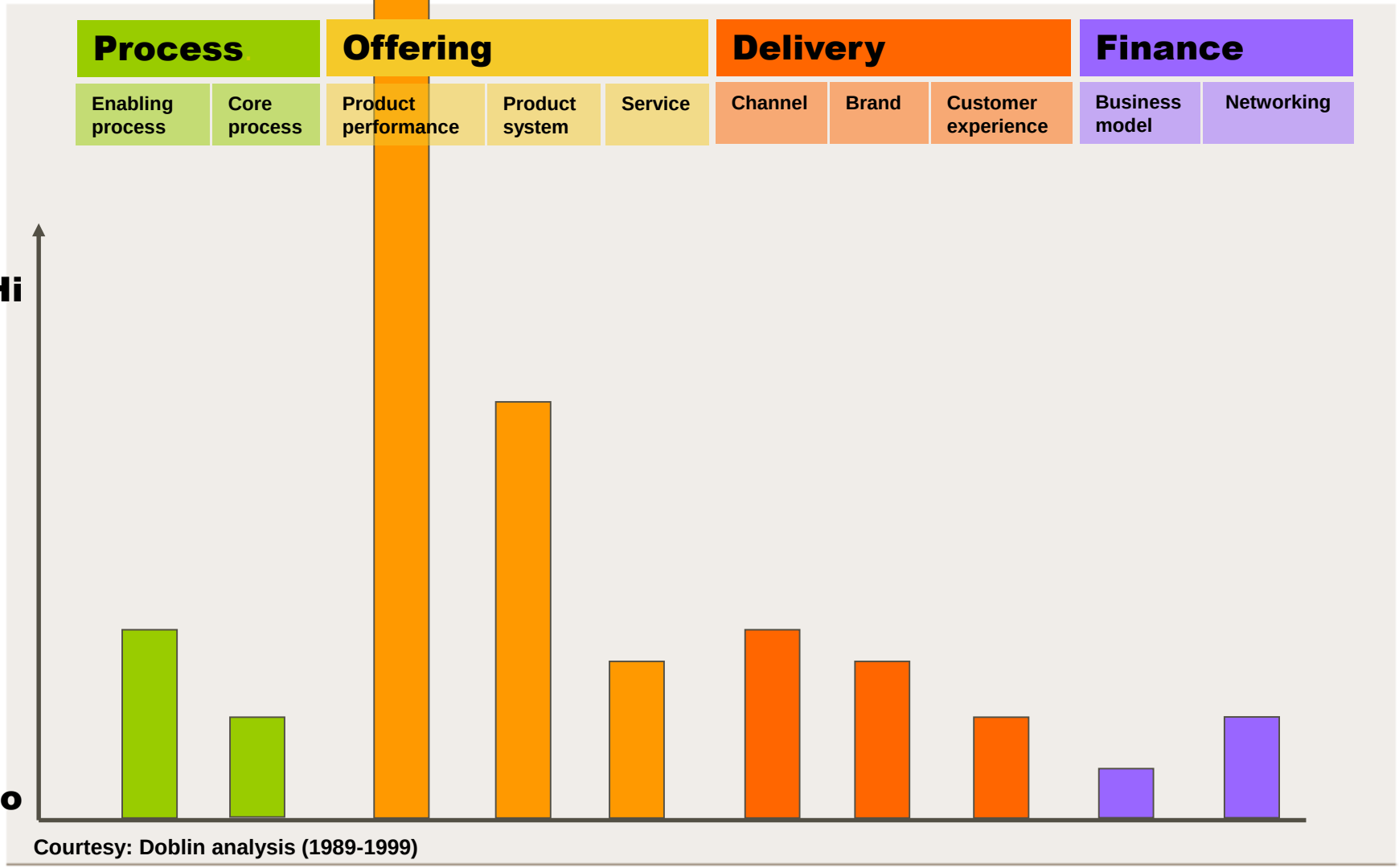
Bridgestone Used the Ten Types Framework to Innovate

BRIDGESTONE
PASSION for EXCELLENCE

- Wireless-enabled sensors embedded in tires send tread data to a central server.
- Bridgestone informs customers when they need new tires.
- Moving from being a product manufacturer to a service provider.



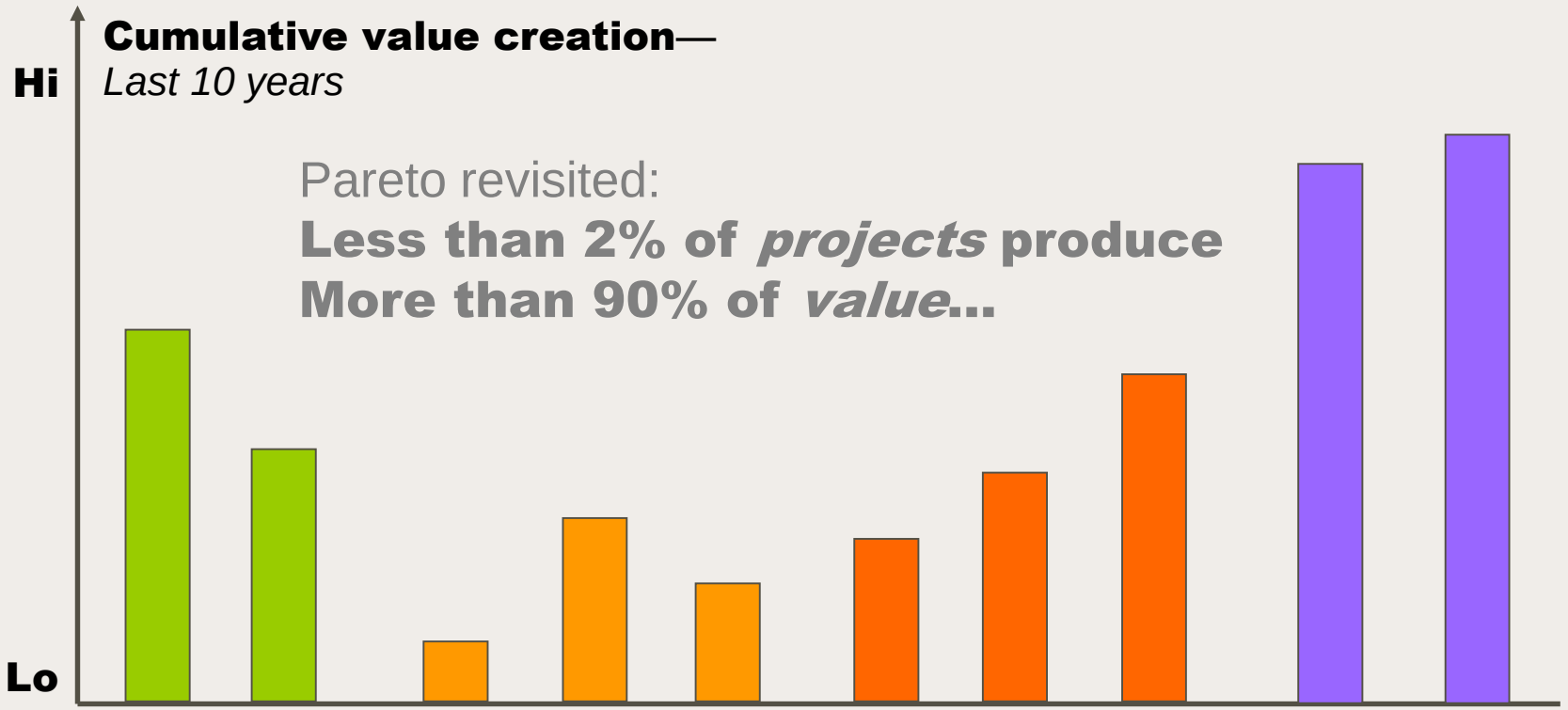
Volume of Innovation Activity



Courtesy: Doblin analysis (1989-1999)

There's a substantial difference between the *Volume* of innovation and *Value* delivered

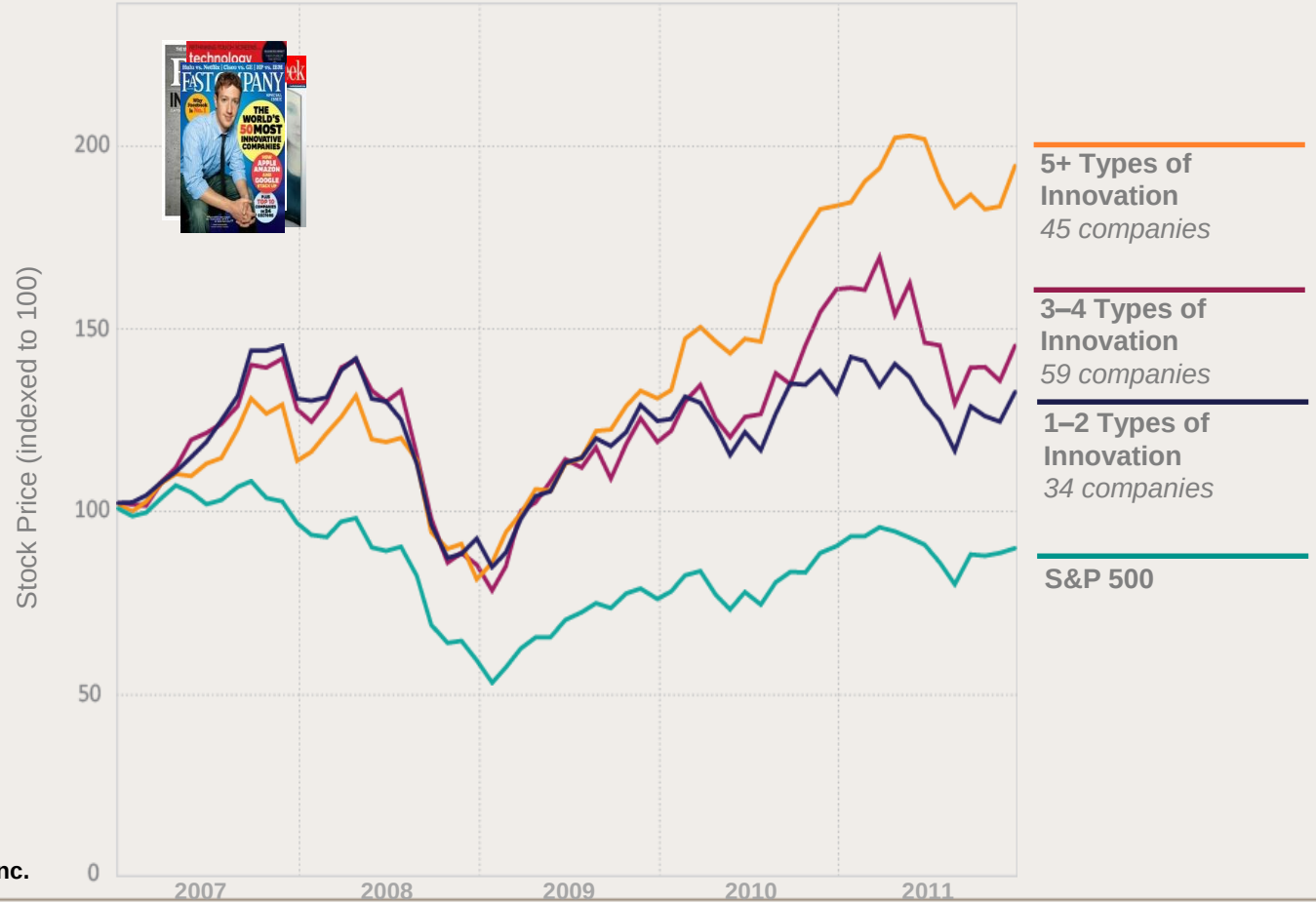
Process		Offering			Delivery			Finance	
Enabling process	Core process	Product performance	Product system	Service	Channel	Brand	Customer experience	Business model	Networking



Courtesy: Doblin analysis (1989-1999)

. . . and integrating more types of innovation delivers superior financial returns

5-Year Indexed Stock Price Returns of the Top Innovators vs. S&P 500



Source: Doblin Inc.

Today's Presentation

1. What is Innovation and Why Does it Matter?
2. Innovating in Government
3. Innovating at the Firm (Organizational)-Level
4. Principles to Maximize Global-Level Innovation

Maximizing Innovation Globally

1. Embrace "Innovation Economics"

Paul Krugman

"Productivity growth is the single most important factor to our economic well-being. *But it is not a policy issue, because we are not going to do anything about it."*

Neoclassical economists focus on allocative efficiency.

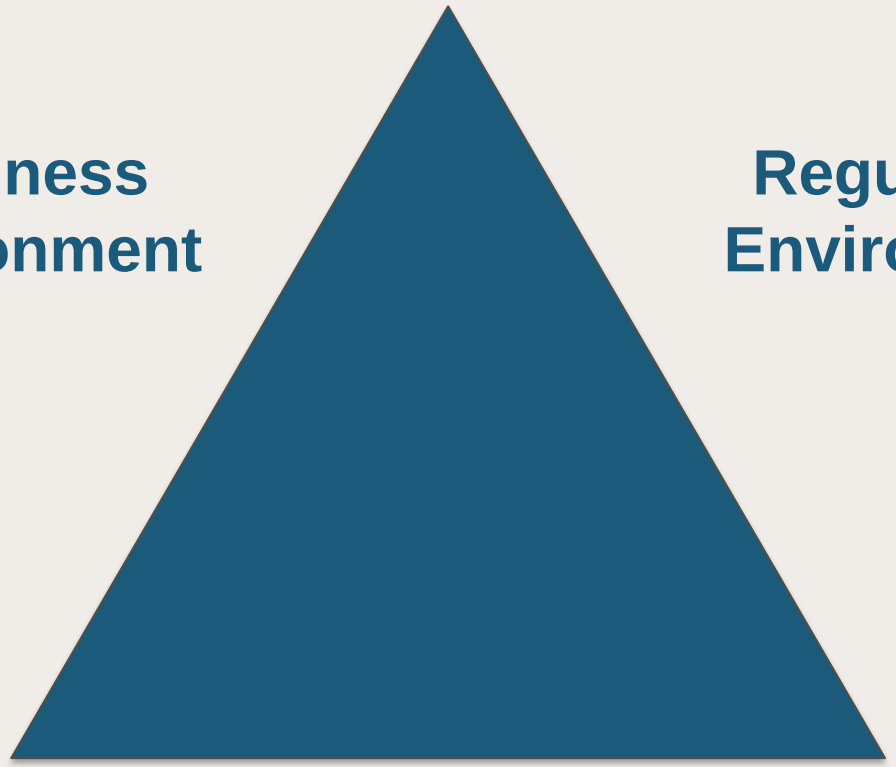
Joseph Schumpeter

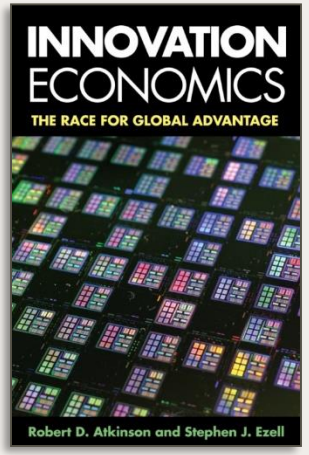
1. The central goal of economic policy should be to spur higher productivity and greater innovation.

2. Markets relying on price signals alone will not always be as effective as smart public-private partnerships in spurring higher productivity and greater innovation.

Maximizing Innovation Globally

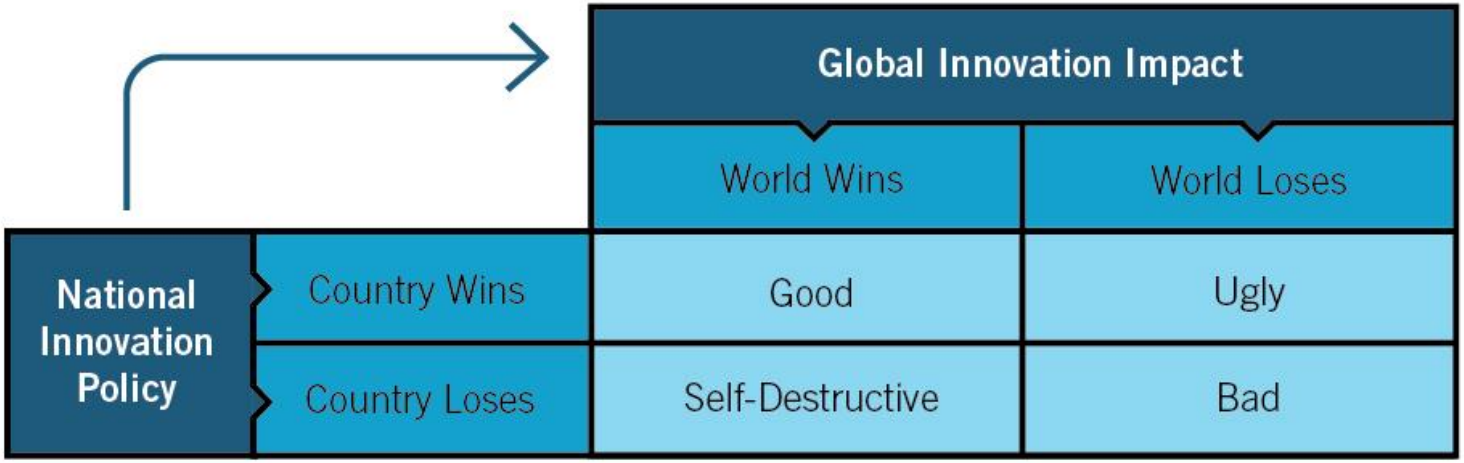
2. Get The "Innovation Triangle" Right





Maximizing Innovation Globally

3. Compete through "Good" not "Ugly" or "Bad" Innovation Policies



Thank you!

sezell@itif.org

Follow ITIF:

Facebook: facebook.com/innovationpolicy

Blog: www.innovationpolicy.org

YouTube: www.youtube.com/user/techpolicy

Website: www.itif.org

Twitter: @itifdc

ITIF
The Information Technology & Innovation Foundation