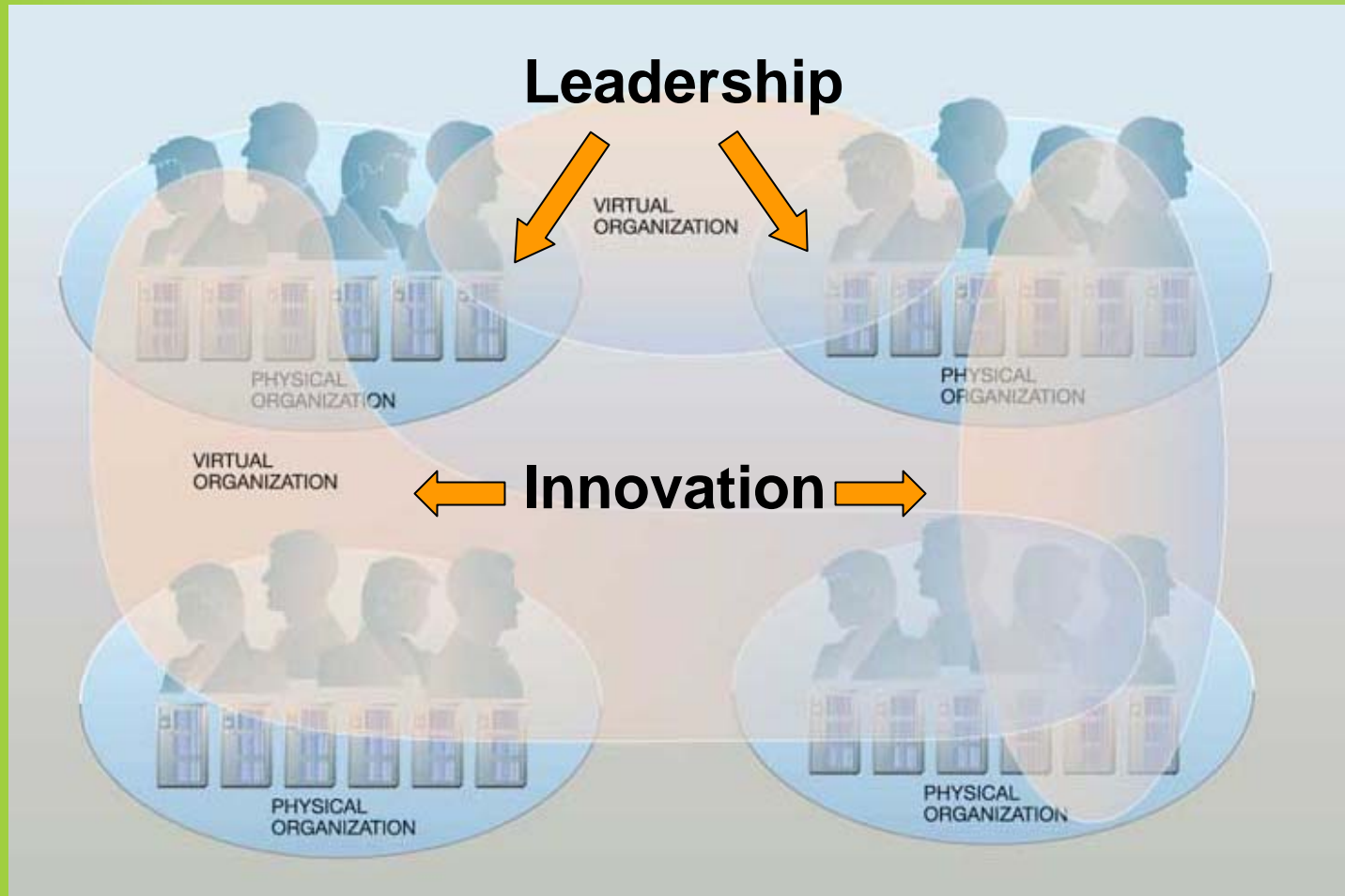


Leading Innovation

Gary S. Metcalf, Ph.D.

Flexible Organizations



Expectations of Predictability

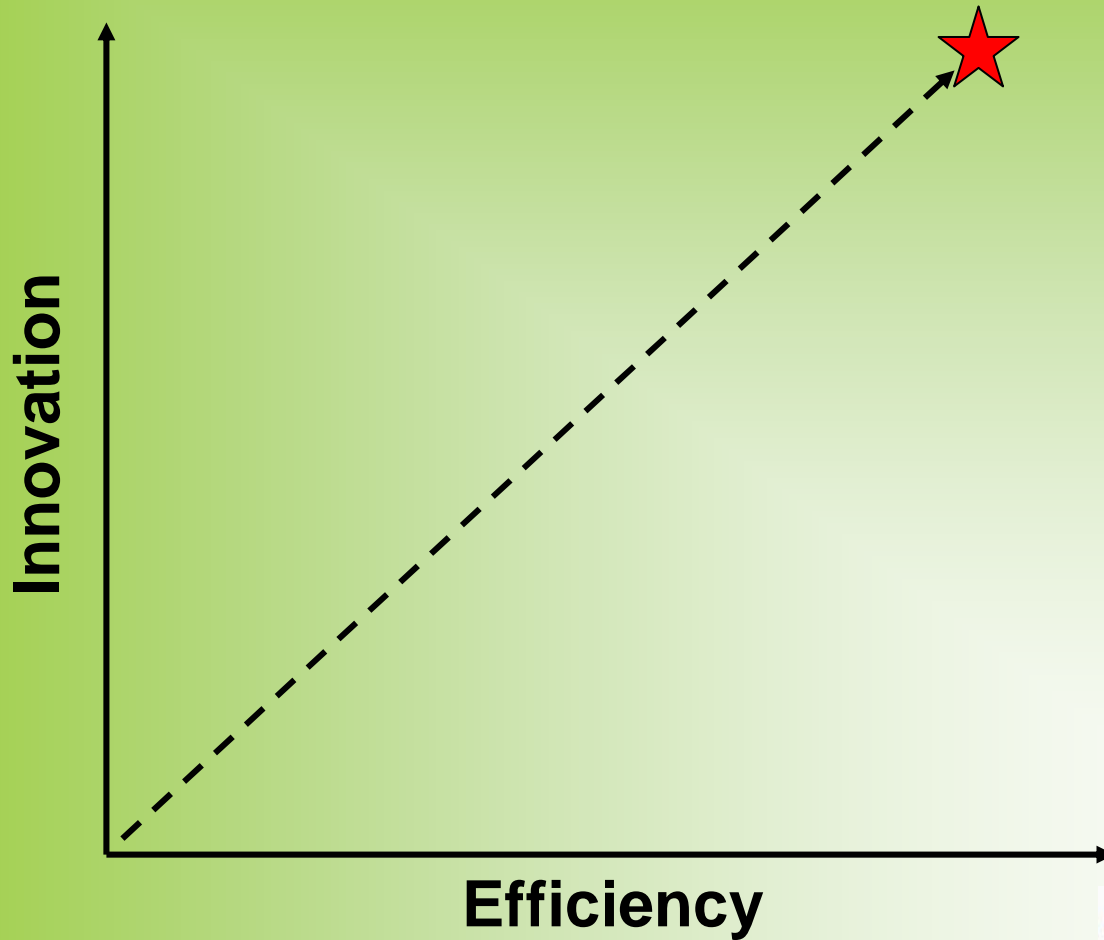
**Political stakeholders:
economic growth (taxes, jobs, etc.)**

**Investors:
predictable returns**

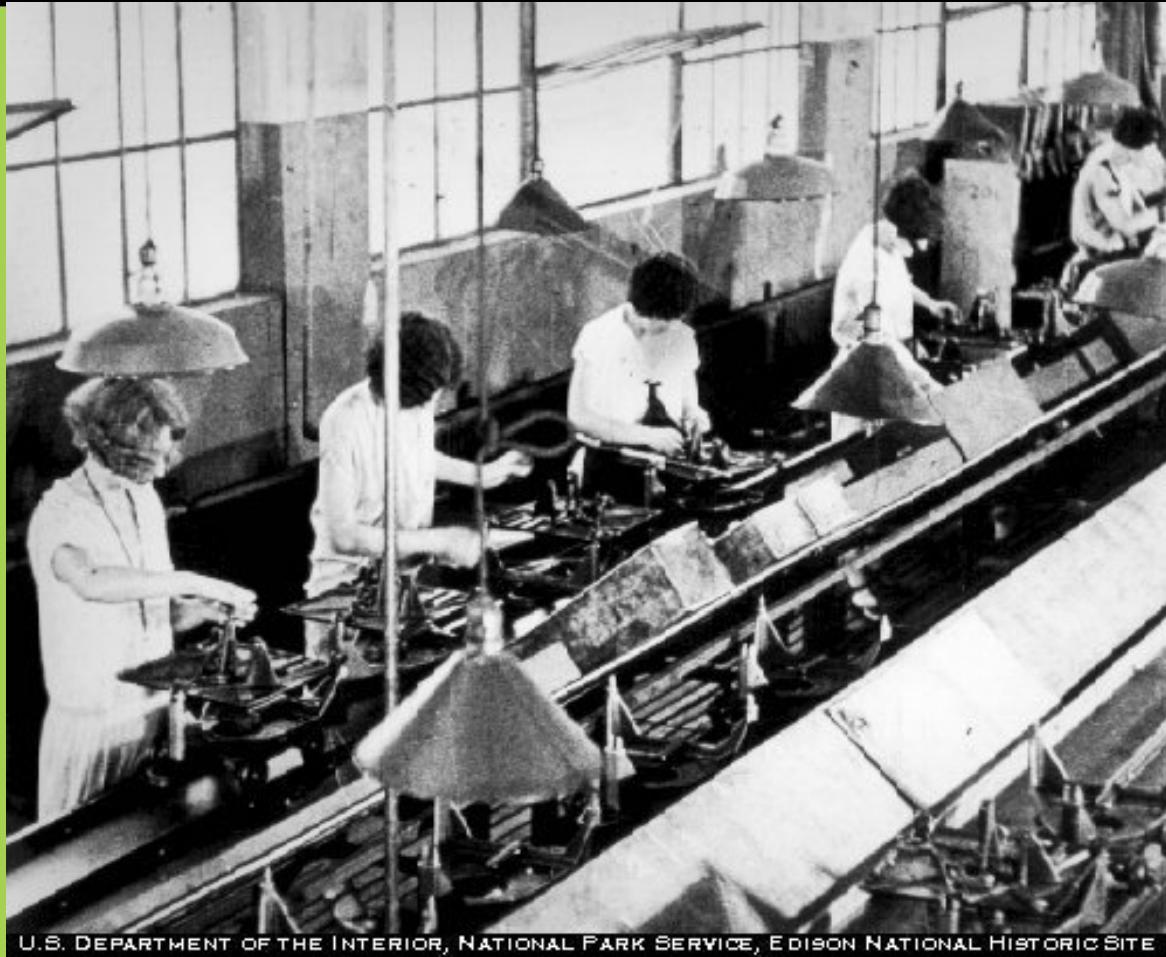
**Corporate Exec's:
predictable profits, perks**

**Employees:
predictable pay, raises,
benefits**

Optimization



Traditional Division of Labor

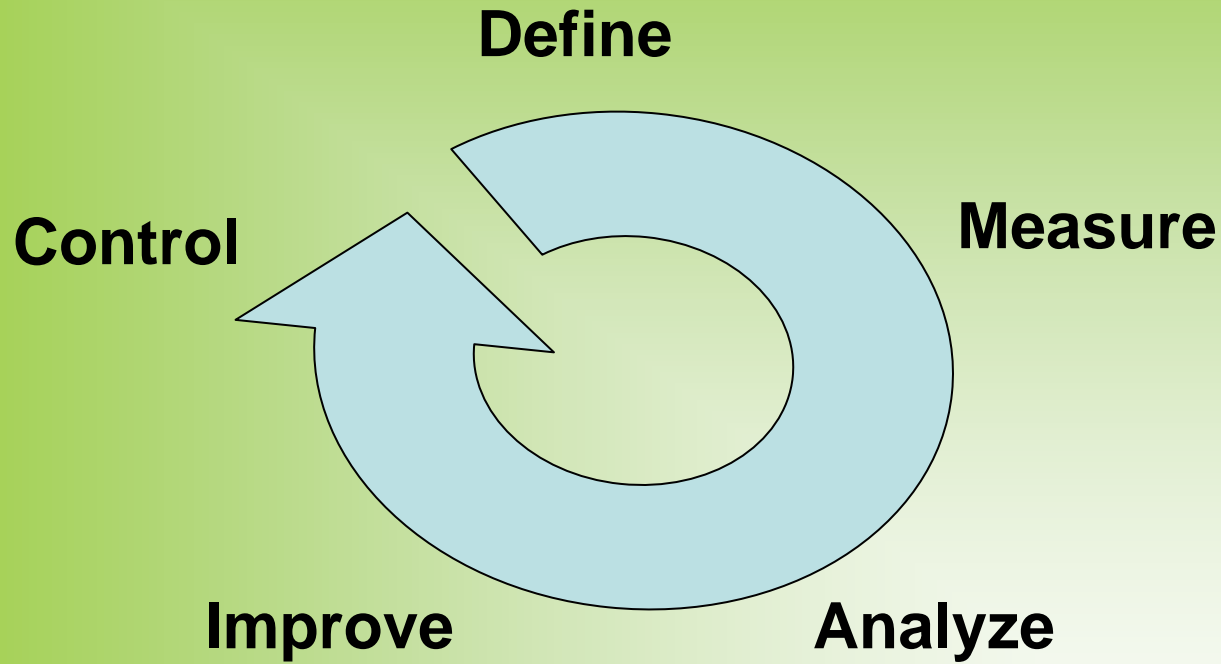


U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE, EDISON NATIONAL HISTORIC SITE

Division of Labor / Specialization

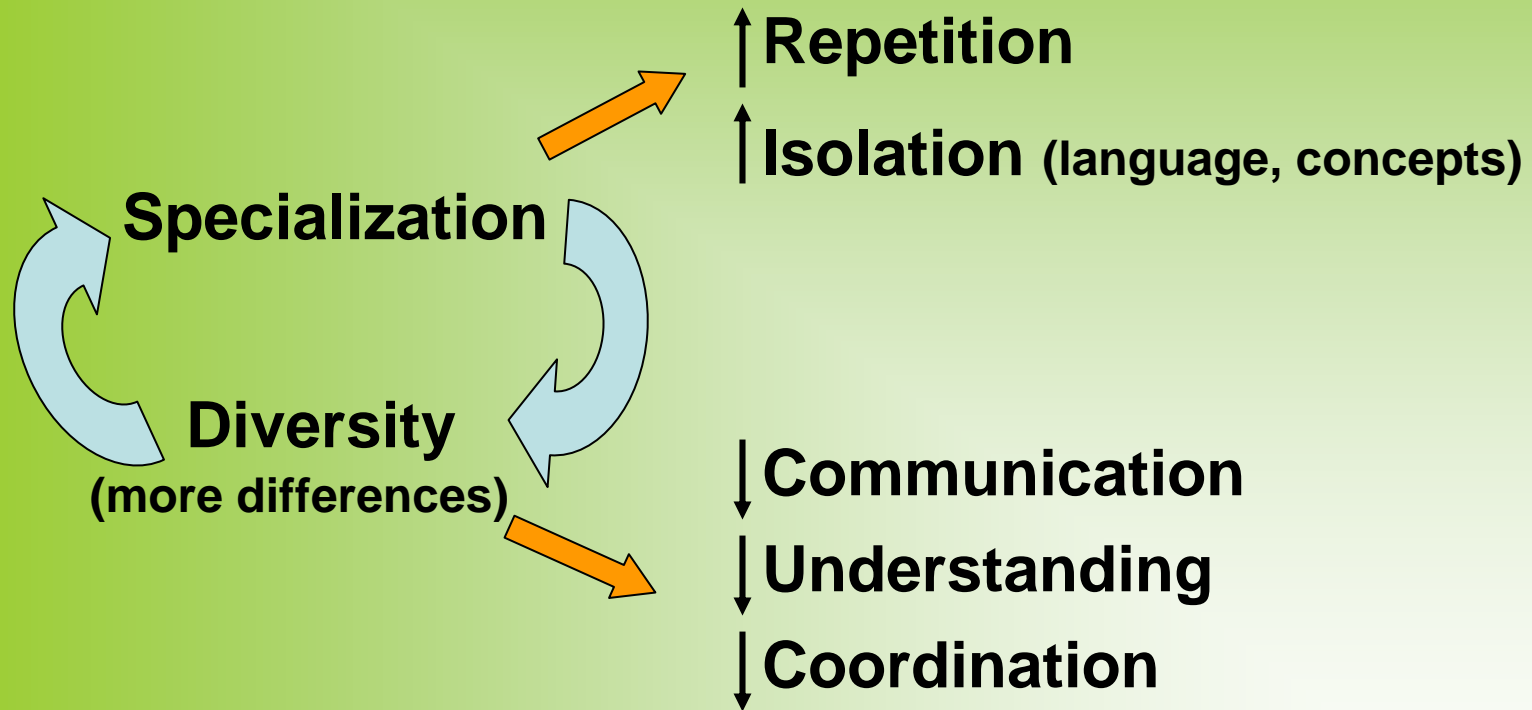
Economic growth, according to Adam Smith, is rooted in the increasing **division of labor**. This idea relates primarily to the specialization of the labor force, essentially the breaking down of large jobs into many tiny components. Under this regime each worker becomes an expert in one isolated area of production, thus increasing his efficiency.

Motorola: Six Sigma



= 99.997% perfection

Complex Environments



Innovation & Size

- Why are small firms more innovative than large ones?
 - Entrepreneurship
 - Energy
 - Hunger / desire
- Why do venture capitalists kill innovation?
 - Demand for ROI
 - MBA management by numbers

Biological Models

- Synaptic Pruning:
 - The neurological connections in the human brain are greatest between ages 2 and 5 (50% to 100% greater than an adult.) At that point, they start being eliminated until they stabilize in puberty, and remain at that level through adulthood.
- Punctuated Equilibria:
 - Evolution is not a linear process

Human Innovation



*You do not have to create innovation.
You only have to unleash it.*

Social Systems Design

Bela H. Banathy

Transcending the existing state is the first task of designers who wish to bring their system in sync with the new realities of our age or who wish to design a system that responds to their desires, aspirations, and expectations. They must transcend old ways of thinking and reframe their thinking, shift from a problem focus to a solution focus, unload the baggage of the past, unlearn past habits and practices, and learn new ones...

‘We cannot address a problem from the same consciousness that created it. We must think anew’ [Einstein paraphrase].

Product Design

Richard Seymour

It was Einstein who observed that a problem cannot be solved from within the context in which it was created. The same goes for design as it does for quantum physics. The most stubborn and intractable issues usually require a fundamental shift in viewpoint before they yield to an enquiring mind.

Seymourpowell Design

Many products stay essentially the same, because the framework in which they were created hasn't changed, even though the relevance to our actual needs may have done so. It is at this point that a paradigm shift can recalibrate the design approach, and provide the context for an unexpected, but relevant solution...

www.seymourpowell.co.uk



Seymourpowell (cont.)

The classical model for incremental change is to get behind a technology and push it forwards, in much the same manner you would push a boulder... but it's hard to see where you are going until you've got there.

Seymourpowell (cont.)

Working out what something should be, and then pulling the technology towards that goal, invariably yields a better result. By standing in the future and looking backwards into the present, we benefit from a clearer perspective, and avoid merely finding an alternative way to do the wrong thing.

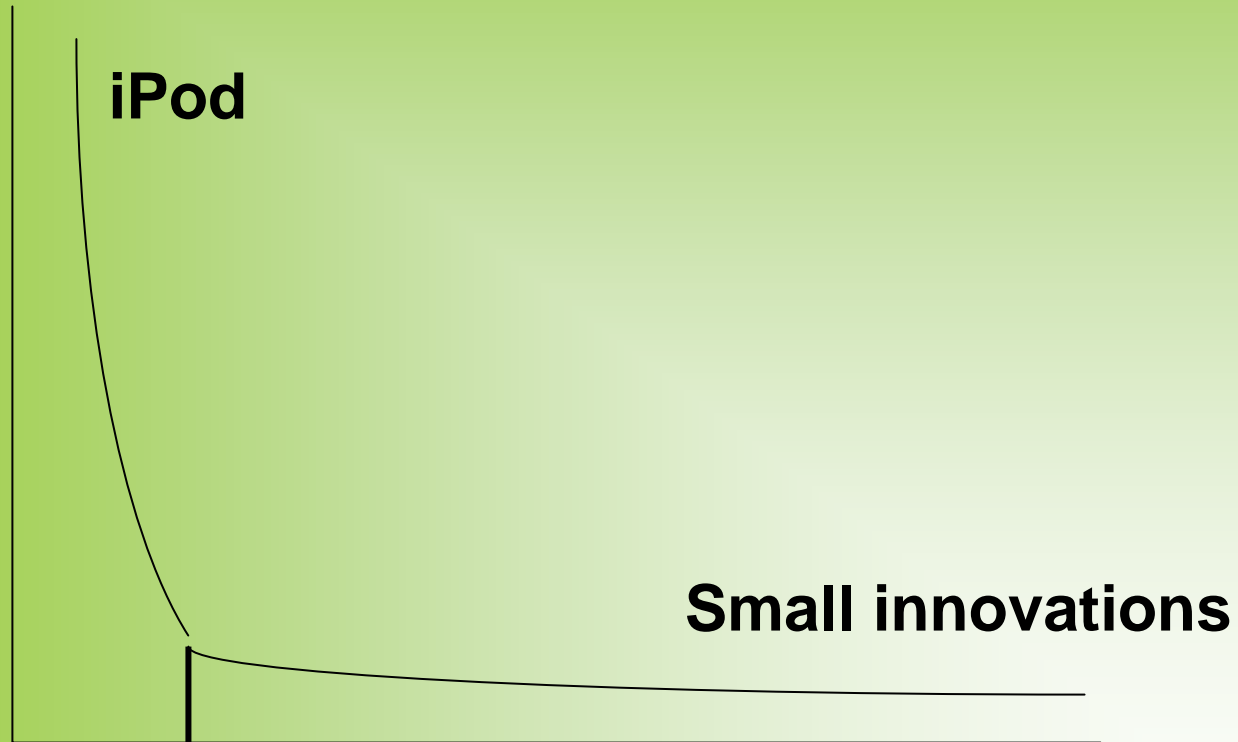
Barriers to Innovation

- Productivity rather than solutions
 - Producing 10,000 mobile phone units is *not* the same as creating communication solutions for 10,000 customers
- Excessive stress
- Repetition / boredom
- Lack of future-thinking
 - What would a better / more ideal situation look like?

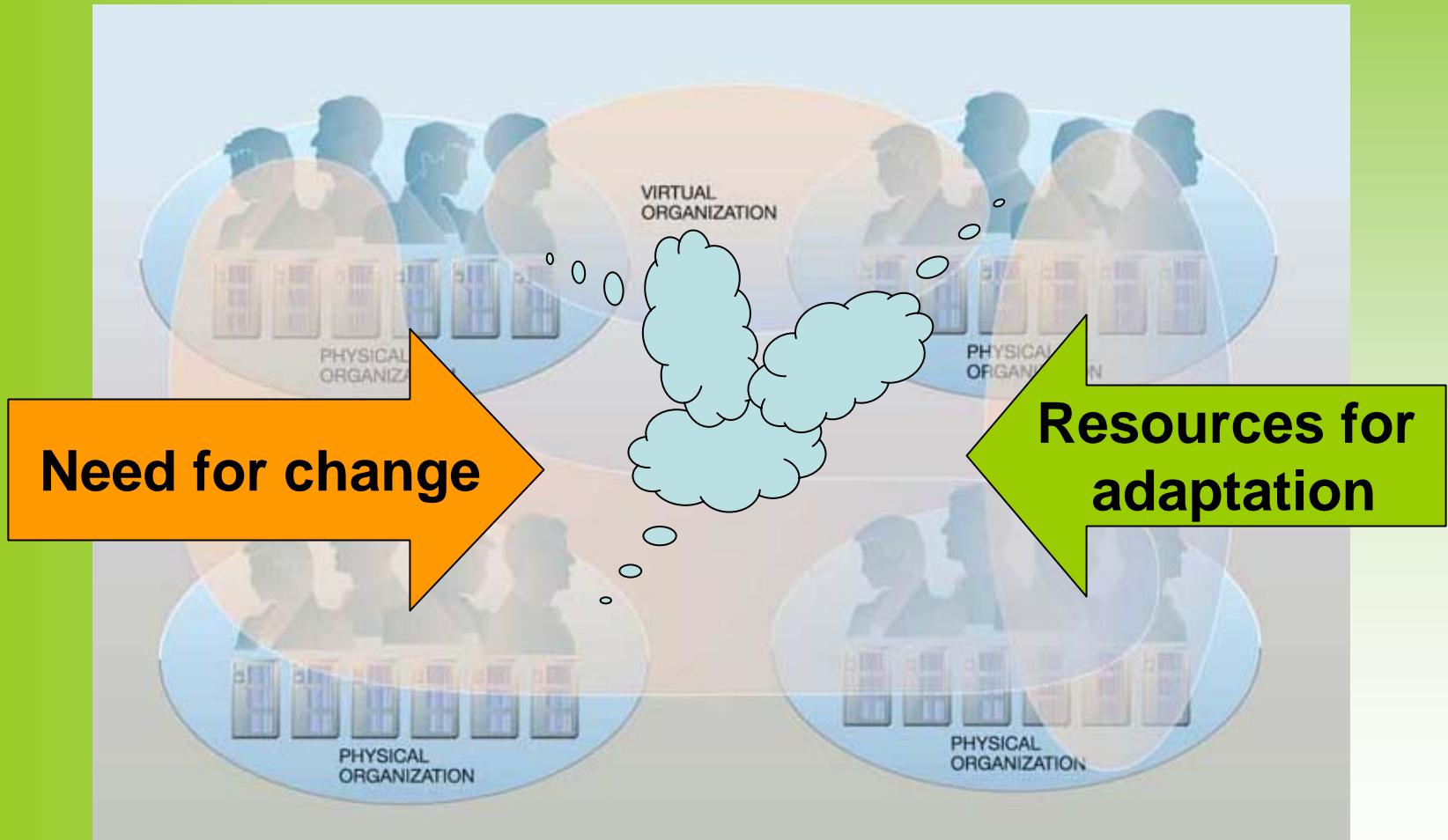
Recommendations

- Look for emergent innovators
- Don't create specific positions; instead, allow project teams to form and help them as needed
 - *It's not a linear process*

The Long Tail



Emergent Innovation



Recommendations (cont.)

- Everyone is still accountable and responsible, but innovators need to be allowed time and resources
- Keep the organization informed
 - The work of the organization must continue, so not everyone can be on a special project at the same time
- Leadership in this context is about creating the environment which fosters innovation