Reset for Regulation

Mark A. Jamison
Director
Public Utility Research Center
University of Florida
About PURC

• Research on energy, water, telecoms, institutions, and leadership

• PURC/World Bank International Training Program
  ▪ 140 countries, >2000 professionals

• Customized and advanced courses
Online Resource

- Narratives summarize key topics
- Additional Resources: Glossary in Spanish and four other languages
- Frequently Asked Questions, including
  - Social pricing to promote access
  - Management and regulation of State-owned Enterprises
- 500 PDFs as References
- Self-paced Quizzes (for capacity building and classrooms)

www.regulationbodyofknowledge.org
Outline

• Purposes and design of infrastructure regulation
• New environment for regulation
• Meaning of reset
• Theory of adaptive challenges and work
• Practice of reset
Purposes of Regulation

• Public Interest Theory (Glaeser 1927; Trebing 1984, 1987)
  ▪ Control market power
    • Natural monopoly characteristics ⇒ undersupply, discrimination
  ▪ Ensuring sector stability
    • Inherently destructive competition
    • Imbued with public interest

• Neoclassical economics (Peltzman 1976; Posner 1971)
  ▪ Redistribute wealth
  ▪ Extract rents from service providers
Regulatory Institutions

• Limit Opportunism (Spiller 2005)
  ▪ Independence ⇒ checks and balances
    • Political, operator, stakeholder
  ▪ Independence improves investment and stability
    (Henisz and Zelner 2001; Gutiérrez 2003)

• Overcome information asymmetries
  ▪ Private information (moral hazard; adverse selection). Incentivize efficiency.
  ▪ Expert, credible information
Industry Definition

• Set by regulation

• Infrastructure activities that are generally
  ▪ Non-competitive
  ▪ Essential to economic and social performance
    • Instability or poor performance have cascading effects
Industry Structure

• Defined by regulation
• Utility provides monopoly elements and some competitive elements
  ▪ Ring fencing
New Environment

• Internationalization of infrastructure
  ▪ Operators; finance; geo-political

• Technology change
  ▪ Renewables; distributed generation, management, and information; storage

• Jurisdictional conflicts
New Environment (2)

- Environmental concerns
  - Climate change; water
- Financing investment
  - Risk
- Economic crisis
  - Demand; financing; taxation
The reaction

• Look to experts and leaders for answers
• But it is more important to ask right questions than to get right answers to wrong questions.
The reaction (2)

- **Not**: “What is the right policy or regulation?” **But**: “How do we constantly change and adapt without losing the things that are most important?”

- **Not**: “What should the utility of the future look like?” **But**: “What would regulatory organizations look like if they were to truly open doors for the future?”
Reset for regulation

• Develop fresh perspectives and knowledge about the future, all the while holding in trust the wisdom of the past
Reset for regulation (2)

• Not
  ▪ Engage in grandiose redesign of utilities or regulation
  ▪ Reboot and erase institutional memory
• Rather, some jurisdictions, but not all, should try
  ▪ Different utility models
  ▪ Different approaches to investment
  ▪ Different agency design
Which foundations being shaken?

• Does internationalization mean that we need to rethink jurisdiction?
• Do technological changes point to a need for new industry definition, boundaries, priorities, players?
• Do environmental concerns redefine objectives, players, instruments?
Which foundations being shaken? (2)

• Are wealth holders willing to invest in utility infrastructure?
  ▪ Coercion? Mutually beneficial exchanges?
• Is declining demand in conflict with opportunities to recover fixed investment?
• Does rising political involvement mean that independence is unsustainable?
Pressures in the Caribbean

"The RIC -- are they really here to protect?"

"OUR budget still awaiting cabinet approval"

"Unhappy with consumer protection, OUR"
Pressures in the U.S.

- Maryland legislature attempts to disband the state’s PSC
- Illinois governor pressures ICC chairman out of office
- Florida governor announces that commissioner reappointments depend on rate decision
Theory Overview

• Draw upon neuroscience, neuropsychology, and behavioral economics
• Examine human behavior in a novel experience, i.e., one that it’s current beliefs do not adequately explain …
  ▪ Indicates existing beliefs do not match reality
  ▪ Indicates existing institutional practices are not appropriate for the future
  ▪ Creates ambiguity and distress
Theory Overview (cont.)

• Choices when novel experience
  • Ignore: illegitimate or temporary phenomena
    o U.S. auto manufacturers in the early 1970s
    o IBM turned down Microsoft’s offer to sell DOS
  • Recognize it for what it is and either…
    o Adaptive Behavior: Learn the new reality and adapt
    o Avoidance Behavior:
      » Leave the future to others (business option)
      » Live in dysfunction (government option)
Novel experience

- Something that happens that does not fit our existing beliefs
  - Electric customers do not adopt energy efficiency
  - Responses
    - “The utilities are corrupt.” “Customers are not very smart.” (Dismiss)
    - “Maybe the efficiency programs are poorly designed? Maybe price signals won’t lower quantity demanded? Maybe there are systems barriers to improved efficiency? Let’s run some experiments.” (Check beliefs)
      - “Now that we know…, we will…” (Modify rules)
Institutional Change

• Beliefs and rules
• Theory of adaptive learning
• Model of adaptive learning
Beliefs and Rules

• North (1990, 2005): Institutions are sets of rules that reflect
  ▪ Beliefs
    • the way we think the world does work
    • the way we think the world should work
    • what we believe about others’ beliefs
  ▪ Rules/Norms – our formal and informal agreements on how to do things

• Reality – what really is
Notation

- $i$’s beliefs at time $t$: $B_{i,t}$
- Reality at time $t$: $P_{i,t}$
- Distance between beliefs and reality:
  - $\|B_{i,t} - P_{i,t}\|$
  - Adaptive learning is decreasing the distance between beliefs and reality and changing the rules accordingly
<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Recognize what is</th>
<th>Process novel information</th>
<th>Technical expert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective</td>
<td>Emotions and Motivation</td>
<td>Consider emotional response</td>
<td>Accepted values and threats</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controlled</td>
<td>Linear and analytical. Subjective effort</td>
<td>Pattern based and quick response</td>
<td></td>
</tr>
<tr>
<td>Automatic</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Experts

• Experts are those whose experiences map well to their beliefs
  ▪ Doesn’t mean that they know reality, just that their experiences are the experiences they expect, given their beliefs

• Examples
  ▪ Chess
  ▪ Securities traders
  ▪ Sports
**Neuroscience**

<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognize what is</td>
<td>Linear and analytical. Subjective effort</td>
</tr>
<tr>
<td>Affective</td>
<td>Pattern based and quick response</td>
</tr>
<tr>
<td>Emotions and Motivation</td>
<td>Process novel information</td>
</tr>
<tr>
<td></td>
<td>Technical expert</td>
</tr>
<tr>
<td></td>
<td>Consider emotional response</td>
</tr>
<tr>
<td></td>
<td>Accepted values and threats</td>
</tr>
</tbody>
</table>

Exposure to novel patterns creates ambiguity
Adaptive learning uses controlled processes to change automatic processes.

<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Recognize what is</th>
<th>Controlled</th>
<th>Affective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Linear and analytical. Subjective effort</td>
<td>Process novel information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changing requires cognitive effort</td>
<td>Technical expert</td>
</tr>
<tr>
<td>Affective</td>
<td>Changing requires reworking of emotions, values, traditions</td>
<td>Consider emotional response</td>
<td>Accepted values and threats</td>
</tr>
</tbody>
</table>

**Neuroscience**
Confronting an adaptive challenge

• What happens when we cannot map an experience to our beliefs; i.e., encounter a novel experience?

  ▪ Creates

    • ambiguity – a sense of not knowing how things really work
    • anger – a sense that someone is screwing with us

  ▪ The “stress” of ambiguity drains mental energy, which lowers productivity
Adaptive learning

• Investigating the novel experience to learn new realities (changing beliefs) and to adapt rules and strategies

• Effects
  ▪ Lowers ambiguity, which improves productivity
  ▪ Requires conscious effort and consumes mental resources
  ▪ Inspiration: Potential to increase “profits” by improving beliefs

• Reversion risk if do not abandon former practices
Stress and mental work

Stress

Increasing Cognitive Activity

Stress
Decreasing Cognitive Activity

“Flooding”

Stress

Capacity for cognitive work

Stress and mental work
Model of Adaptive Learning

• Recall distance between beliefs and reality: $||\mathbf{B}_{i,t} - \mathbf{P}_{i,t}||$

• Adaptive learning
  - $f(\mathbf{B}_{i,t}, \Psi_{i,t}) = f(\mathbf{B}_{i,t+1})$
  - such that $||\mathbf{B}_{i,t} - \mathbf{P}_{i,t}|| > ||\mathbf{B}_{i,t+1} - \mathbf{P}_{i,t}||$
  - Where $\Psi_{i,t} = \{0, \overline{\Psi}_{i,t}, \underline{\Psi}_{i,t}\}$
    - No learning, productive learning, flooding
Practice of Adaptive Leadership

• Framework
• Tools
• Reset
• Pedagogy
## Technical vs. Adaptive Challenges

<table>
<thead>
<tr>
<th>What’s the work?</th>
<th>Who Does the Work?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical</strong></td>
<td><strong>Adaptive</strong></td>
</tr>
<tr>
<td>Apply current know-how</td>
<td>Authorities</td>
</tr>
<tr>
<td>Learn new ways</td>
<td>The people with the problem</td>
</tr>
</tbody>
</table>

From Heifetz and Linsky, 2002
Getting on the Balcony
Observing from the Balcony

What is really going on? What are your emotions?

What are the motivations? What are their reactions?

What are your reactions?
Create a Holding Environment

Safety

+ 

Stress

DANGER AHEAD
Reset

In some contexts, change is important. The change might be to go where others have gone before, but it might be onto new ground. “Reset” means developing fresh perspectives and knowledge about the future, trusting the wisdom of the past.

- Focus on **Next** practices, not **Best** practices.
- Focus on **Why** rather than on **What**
- Focus on **Leadership** not on **Leading**

(Jamison and Castañeda, 2009)
Next practices, not Best practices

• Best practice is about imitation (following in someone else’s footsteps). A focus on next practice is needed when we are going into areas where no one has gone before.

Why rather than What

• When we ask ourselves “What should we do next?” we emphasize practice. But the practice needs a foundation, basic principles, and values.

• Ask “Why have certain practices or why have experiments been successful or unsuccessful?” so that we analyze our underlying priorities and our context. We learn, keep what is important, and discard what holds us back.

Collins, 2009. How the Mighty Fall and Why Some Companies Never Give in
Leadership vs. Leading

• Leader provides direction (when the right direction is already known).
• Leadership mobilizes people to tackle difficult and often ambiguous problems and circumstances.  
• The system currently faces uncertainty and ambiguity. There is a need for leadership.
## Authority vs. Leadership

<table>
<thead>
<tr>
<th>Authority Work</th>
<th>Leadership Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides solutions</td>
<td>Identifies challenges</td>
</tr>
<tr>
<td>Protects</td>
<td>Discloses threats</td>
</tr>
<tr>
<td>Restores order</td>
<td>Exposes real conflicts</td>
</tr>
<tr>
<td>Maintains norms</td>
<td>Challenges norms</td>
</tr>
</tbody>
</table>

From Heifetz, 1994
Challenge of Independence
Meaning of Independence

Consumers

Operators

Regulator

Politicians

Other Interests
Why dangers for regulators?

Independence means
- Loss of political power
- Loss of political options
- Loss of influence

Player in the process
Regulating the Regulator
Cost of Independence

- Firms
- Independent
- Regulator
- Buyers
- Political
- Control

- Short Run
- Long Run
- Short Run
Regulator as Player

- Formal policy advice
- Exercising leadership
Leadership with Authority

Mixing Roles

Solutions vs. Challenges

Order vs. Conflict

Protection vs. Disclosure

Norms vs. Challenges
Pedagogy

Technical Training

Didactic
- Lecture
- Instant Feedback
- Small Group Discussion
- Debates
- POVs
- Advocate

Experiential
- Case Studies
- Role Play
- Simulations
- 360° Feedback

Approaches:
- Panel Discussion
- Small Group Debates
- Stories
- Simulations
- Play
- Case in Point

Leader:
- Controls
- Advocates

Learner:
- Passive
- Active

Essence:
- Intellectual
- Personal

Recall:
- Limited
- Maximized

Developing Heuristics

Public Utility Research Center
UNIVERSITY of FLORIDA
Conclusion

“...The good leader is he who the people revere. The great leader is he who the people say, ‘We did it ourselves.’”

Lao-Tzu