Why is Innovation Now a Hot Topic?

- Speed of Life
  ...creates focus

- Current Economic Realities
  ...create urgency
Innovation: Course Objectives

• **Prompt leaders to rethink how they define innovation**…
  …develop creative techniques to facilitate innovative thinking

• **Embrace a process of discovery and innovation at BAE**…
  …for new products…systems…and processes

• **Effectively allocate critical resources to R&D projects**…
  …to best support strategic growth

• **Identify ways to change BAE’s existing innovation focus**…
  …by promoting BOLD and INNOVATIVE behaviors

• **Promote opportunities for all individuals to innovate**…
  …no matter their position

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**Facts about 21st Century Life**

➢ Volatility and uncertainty…norms not outliers

➢ Life is now Type A
  ❖ Need to move faster – collect info faster, process, analyze and make decisions faster than ever before

➢ Innovation – “the single greatest determinant of growth” – needs to be…
  ❖ Quicker
  ❖ At the Edge
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Our Economic Story:

• Growth
• Boom
• Bubble
• Bust

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Why Do Economic Stories Matter...

The economy doesn’t determine DoD spending... even though it does!
Why Do Economic Stories Matter...?

- "...because economies often determine events!"

Business cycles happen...!

- Economies fluctuate
- Systems evolve
- Demand changes
- Preferences shift
- Natural disasters occur
- Wars happen
- Policies err

Such is life...

...not always smooth or predictable
Russian wheat crop failure…

Pakistan cotton crop failure…

Leading to…

Egypt, Tunisia, Libya, etc.

…Happen!

Macroeconomics & the Business Cycle

Bread

Jeans

PJs

Matter!

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21st Century Realities
Three Ways to Organize People…

Force
Economics
Religion

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Traditional Economics…
• Rationality
• Sufficient information

…clockwork predictability

NOT SO…!

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Economy is...

- Complex
- Nonlinear
- Dynamic
- Sensitive

• Twists & turns of chance strip illusions of control

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Black Swans Happen...More than Once

chaotic disruption

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Complexity Economics…

…hands us a lever:

➢ May not be able to predict or direct economic evolution…

➢ But we can design our institutions to be better or worse “evolvers”…

…and “responders”

Performance and Innovation

• Management spends time here…

…should spend time here

Predictive Analytics

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Innovation...What Is It?

...something **new** that will create **economic value**

...an **executable** idea...not just an invention

- Products...Services...
- Business Model...Processes...

...solves a user problem

...Yields two practical results:

- **Revenue**
- **ROI**

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What is Innovative Thinking?

**A Mindset!**
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What is Innovative Thinking?

A Mindset!

• Don’t ignore the “little voice”…
• Can’t engineer intuition
• Need time
• Interconnect
• …Always thinking

…a personality

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Who are Innovative People?

• Bold …willing to ponder “What if…?”
• Think about “What?” …and “How?”
• Willing to break paradigms
• Not satisfied with current ways
• Curious…Restless
• Confident…Motivated
• Initiative…Persevere

“Asset based thinkers…”

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Who are Innovative People?

• “Think Different”
  ❖ Questioners – frequent
  ❖ Intense Observers
  ❖ Diverse Networkers
  ❖ Experimenters – doers, risk takers

What is Innovative Thinking?

Not Just a Mindset! ...also Behavior!

“Professionally Deviant” behaviors!

Critical Insight...

...if we change our behaviors, we can improve our creativity!

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What is Innovative Thinking?

Stanford University¹ – “Design Thinking”

• Empathy…for the user
• Collaboration…in multidisciplinary teams
• Iteration…rapid prototyping in favor of optimal solutions

¹Hasso Plattner Institute of Design

US is Lagging in Innovation…Why?

• K – 12 educational system issues…
• American cultural emphases…
  □ Sports
  □ Entertainment
  □ -------
  □ Science & Engineering

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Innovation Trends...the 5 Generations

(1) Technology Push
(5) Systems Integration and Networking

How to Spark Innovation?

Technology Hubs  Information sharing

Innovation Engines

Research  Failure

Middle seat of an airplane  Tinkering

Capital  Freedom  ...and more

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How to Spark Innovation?

...and more

Read off the Beaten Path!

Conditions that Give Rise to Innovation...

• Freedom to pursue ideas

• Freedom to fail

• Freedom of access to information…in the broadest sense
Other Catalysts of Innovation?

• “Wasting time…!”

Scott Adams
Creator “Dilbert”

“Is constant stimulation hurting creativity?”

Scott Adams, WSJ August 6-7, 2011
“…a Tribute to Tedium”

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The 5 Myths of Innovation...

1. The Eureka Moment
1. Focus on technology
1. Open Innovation is the future
1. Reward is about pay
1. Bottom-up innovation is best.

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Two Keys to Competitiveness...

• Accelerated Innovation
• Understanding Business Ecosystems

“...Innovation processes are now highly systematized and highly cross functional”

...because “Time-to-Market” now critical!

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The “Cone of Uncertainty” in Business...

Performance
- Revenue
- Expansion
- Cost
- Etc.

Condition or Event triggers exception report

Excess overhead

Lost Opportunities

Historical Future

Time

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The Language and Landscape of Innovation

Robert A. Gough, Jr., Ph.D.

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