Emergent Collaboration:

Cultivating Value from Networks You Can't Control

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Emergent Collaboration:

When Do "Crowds" Make Better Decisions Than Individuals?

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When a Diversity of Insights Are Present.

Alpha Group

[The IQ View]

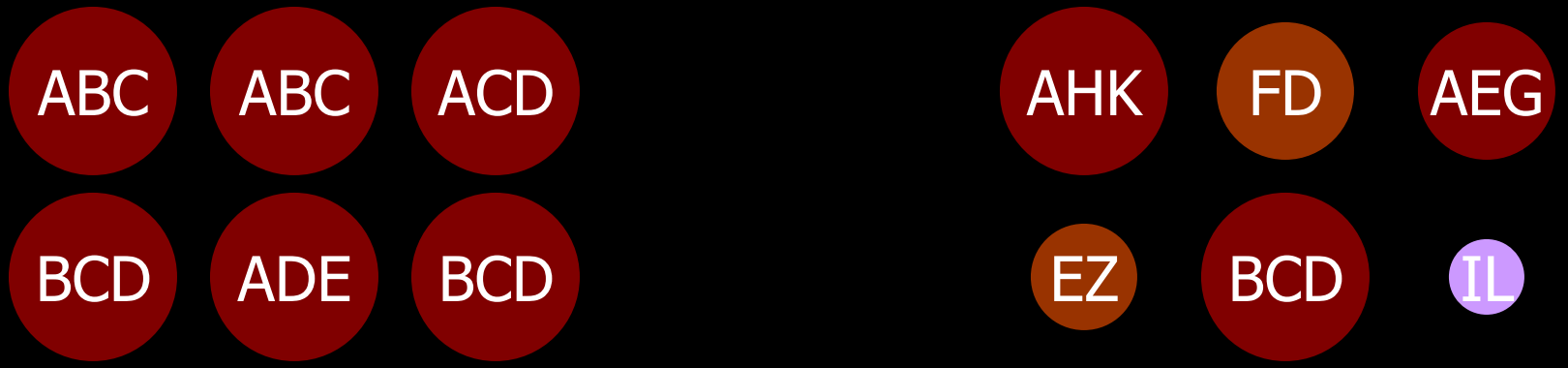
Diverse Group

Hung, See and Page, Scott. (2002). Proceedings of the National Academy of Sciences.

When Do "Crowds" Make Better Decisions Than Individuals?

When a Diversity of Insights Are Present.

A Diverse Group of Insights Always Outperforms the "Best Group" By a Substantial Margin



Alpha Group

[The Toolbox View]

Diverse Group

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Cultivating Insights from a "Crowd" Can Be Smarter Than Any One Expert

Both Statistical and Empirical Evidence Supports This

Predictions as to 2005 NFL Football Draft									
Player	A	B	C	D	E	F	G	Crowd	Actual
Alex Smith	1	1	1	1	1	1	1	1.0	1
Ronnie Brown	2	2	4	5	2	2	2	2.7	2
Braylon Edwards	3	6	2	2	4	3	3	3.3	3
Cedric Benson	4	4	9	4	8	4	8	5.9	4
Carnell Williams	8	5	5	9	4	10	4	6.4	5
Adam Jones	13	8	6	6	6	9	9	8.1	6

Page, Scott. (2007) The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies

Cultivating Insights from a "Crowd" Can Be Smarter Than Any One Expert

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Diversity Prediction Theorem:
Crowd Error = Average Error - Diversity

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Predictor	A	B	C	D	E	F	G	Crowd
Sum of Squared Error	67.0	13.0	30.0	42.0	19.0	59.0	27.0	12.7
Distance From Average	32.6	15.4	21.9	28.1	22.0	30.3	17.7	0.0

Average Error	36.7	= average of all predictor's sum of squared error
Prediction Diversity	24.0	= average of all predictor's distance from average
Crowd Error	12.7	note that the crowd error is less than any "expert" error

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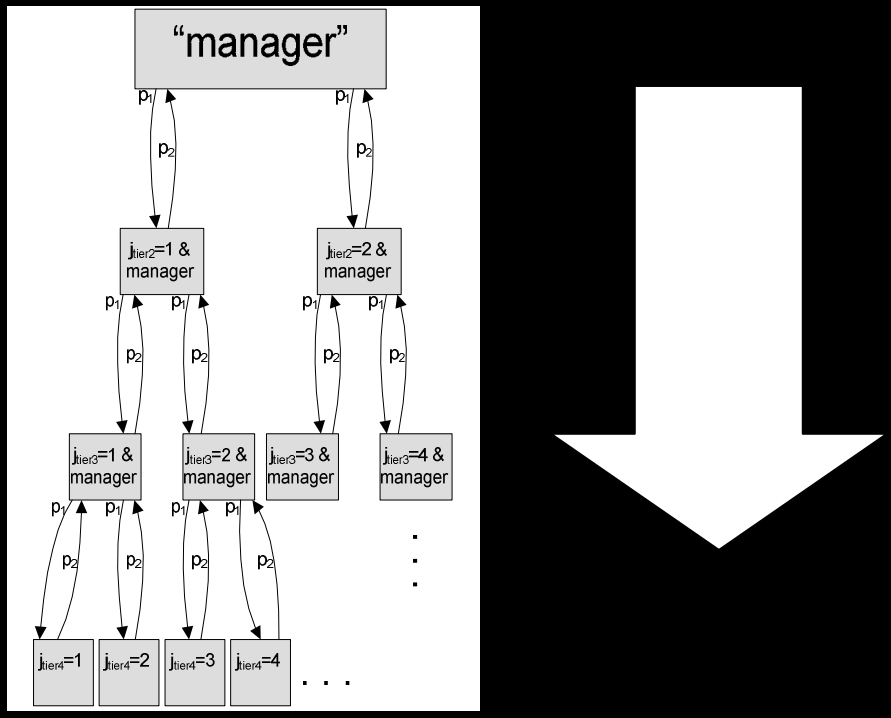
Cultivating Insights Is Also About Employing Bottom-Up, Grassroots Approaches

We Want Bottom-Up, Emergent Collaborations

Top-Down Approaches Magnify Organizational Fragmentation to Produce Disconnects in "What Is Known" By an Organization



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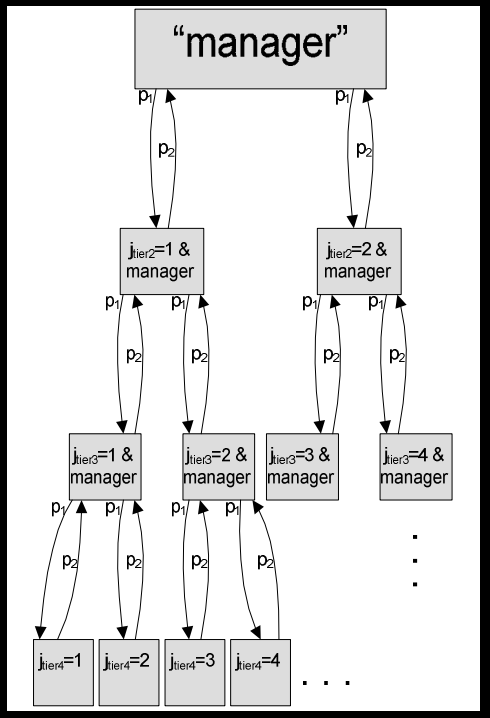
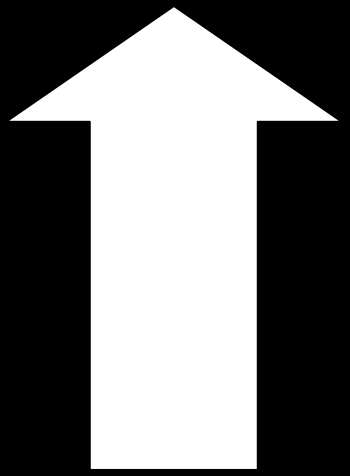
Cultivating Insights Is Also About Employing Bottom-Up, Grassroots Approaches

We Want Bottom-Up, Emergent Collaborations

Bottom-Up Approaches Employ Organizational Fragmentation to Better Aggregate and Filter in "What Is Known" By an Organization





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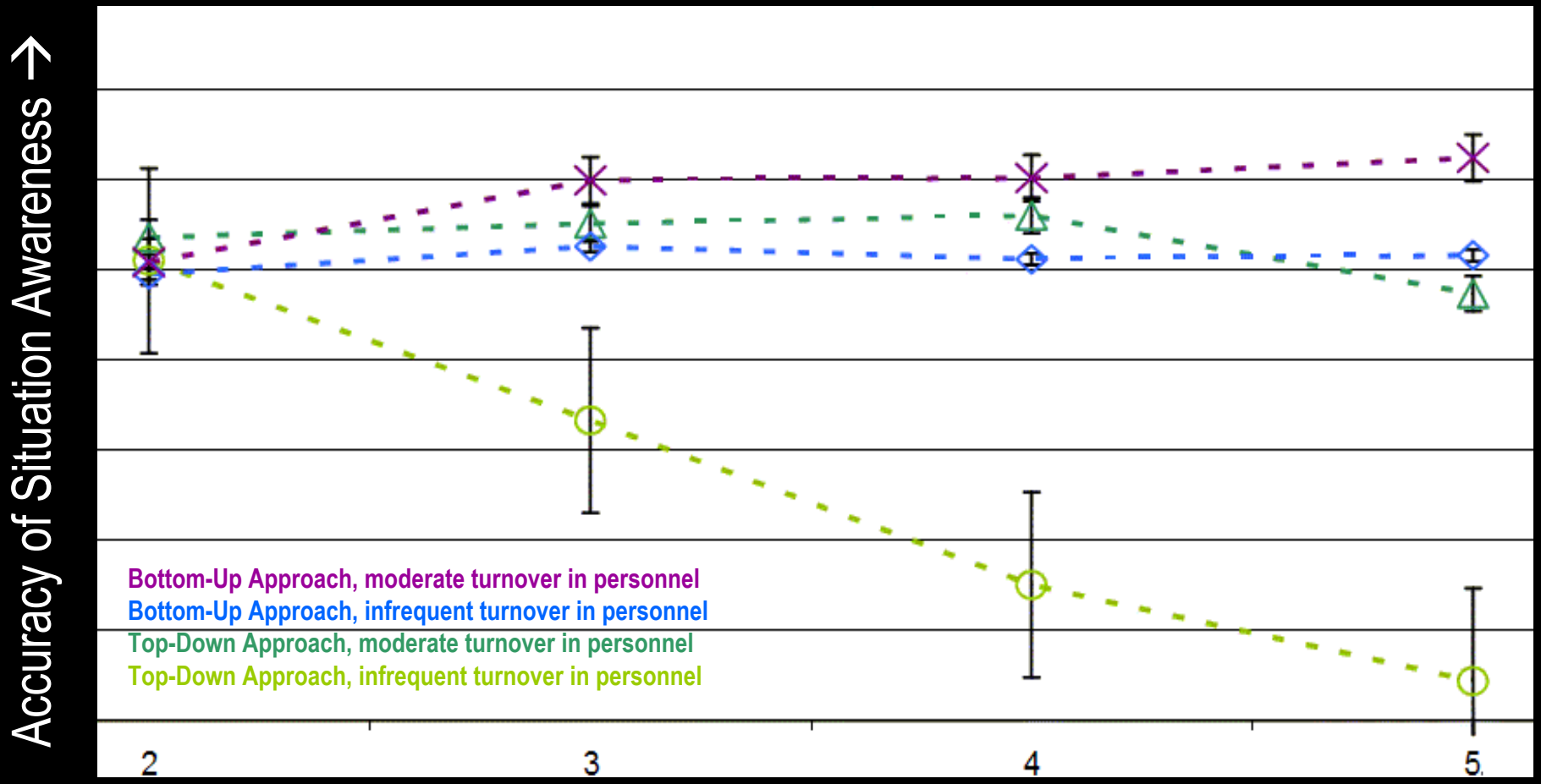

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Cultivating Insights Is Also About Employing Bottom-Up, Grassroots Approaches

Why Bottom-Up and Emergent?

When Faced With Turbulent Environments, a Bottom-Up Approach Improves the Ability of an Organization to Perform Situation Awareness

Whereas a Top-Down Approach Significantly Hurts the Ability of an Organization to Perform Situation Awareness

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So What Is and Why Does Situation Awareness Matter?

Situation Awareness = Perception of Elements in the Environment, the Comprehension of Their Meaning, and the Projection of Their Status in The Near Future

Know Sooner. Know Faster.

And as a Result:
Respond Sooner. Adapt Faster.

Endsley, Mica. (2000). Situation Awareness Analysis and Measurement

So What Is and Why Does Situation Awareness Matter?

Turbulent Environments = Where Knowledge-Intensive Changes Occur Rapidly With Little Warning

No One Individual Knows Enough to Mitigate Negative Outcomes.

Examples: 9/11, Anthrax Events in 2001, SARS Bioterrorism, National Security Emergencies

Endsley, Mica. (2000). Situation Awareness Analysis and Measurement

As a Result of Globalization We Are Facing Increasingly Turbulent Environments

But We Can Address Turbulence:

Knowledge Exchanges Allow Humans to Adapt to Unknown Environments and Identify Interesting Phenomena

"No matter who you are, most of the smartest people work for someone else…"

Bill Joy, co-founder Sun Microsystems. Lead Technical Contributor to Berkeley Unix and Java.

As a Result of Globalization We Are Facing Increasingly Turbulent Environments

But We Can Address Turbulence:

Knowledge Ecosystems = Bottom-Up, Emergent Collaborations for Cultivating Knowledge and Insights

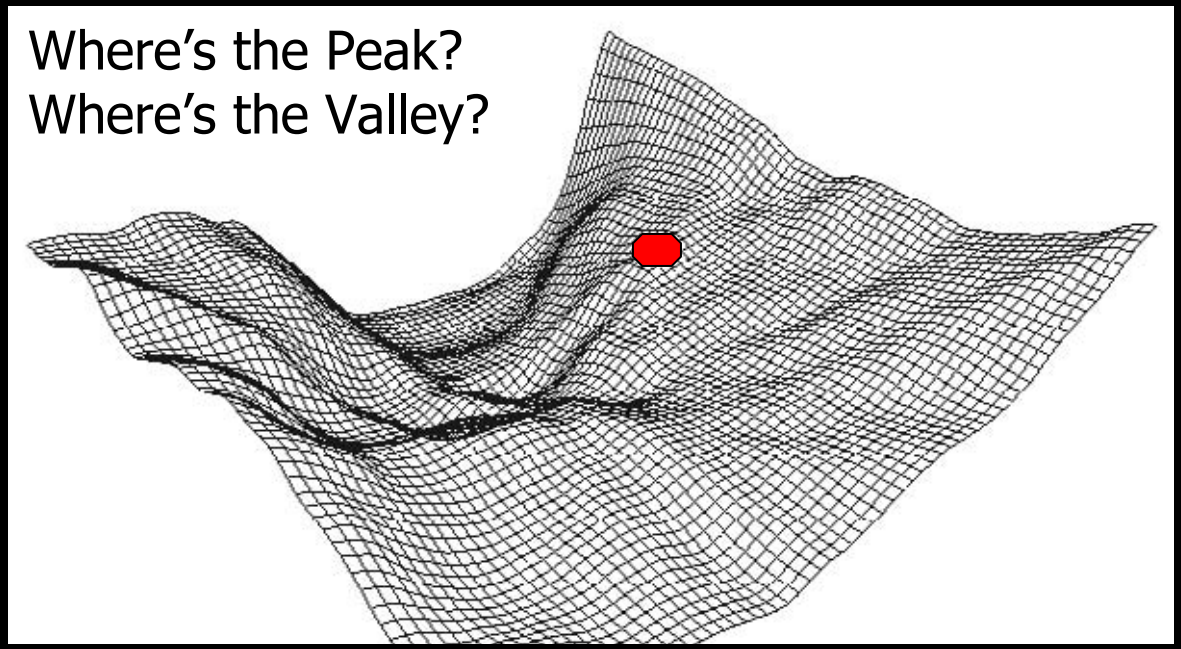
Employ a “Crowd” To Help Provide Better Situation Awareness and Decision Options for You

Combine People, Technology, and Incentives for Collaboration

Why An Ecosystem Approach?

Having Just One "View" Limits Situation Awareness

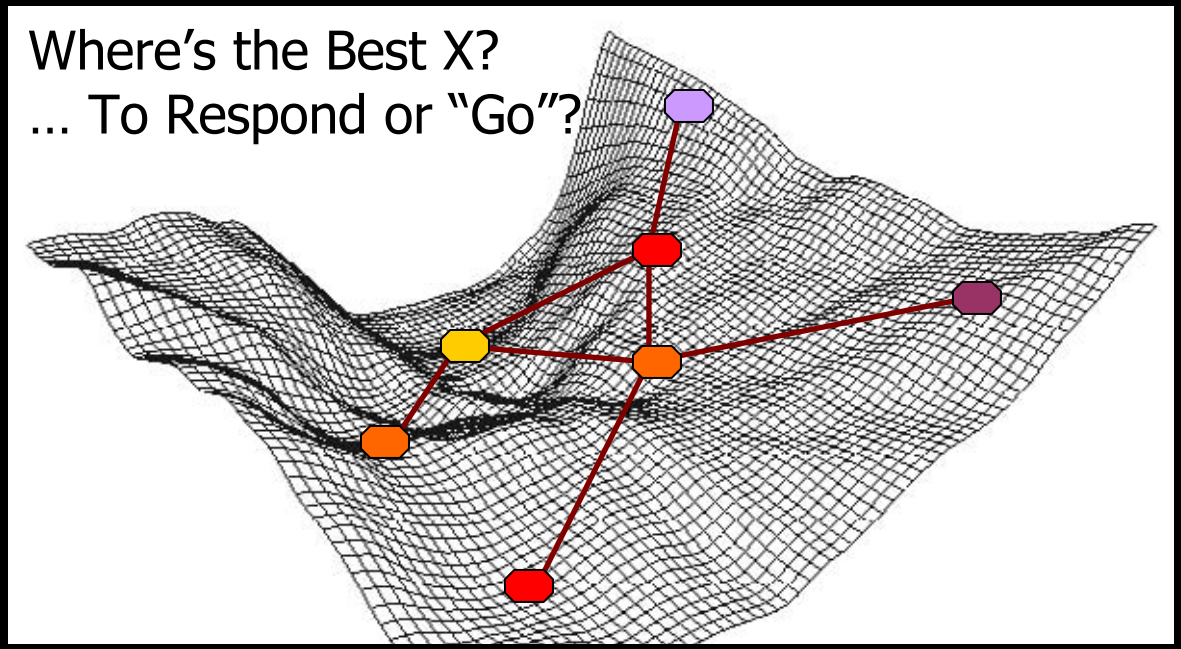
You Don't Know What You Don't Know
Where You're Looking May Be No Longer Relevant



Why An Ecosystem Approach?

Chatter and Collaboration: Multiple Views Can Better Scan an Unknown Environment or Event

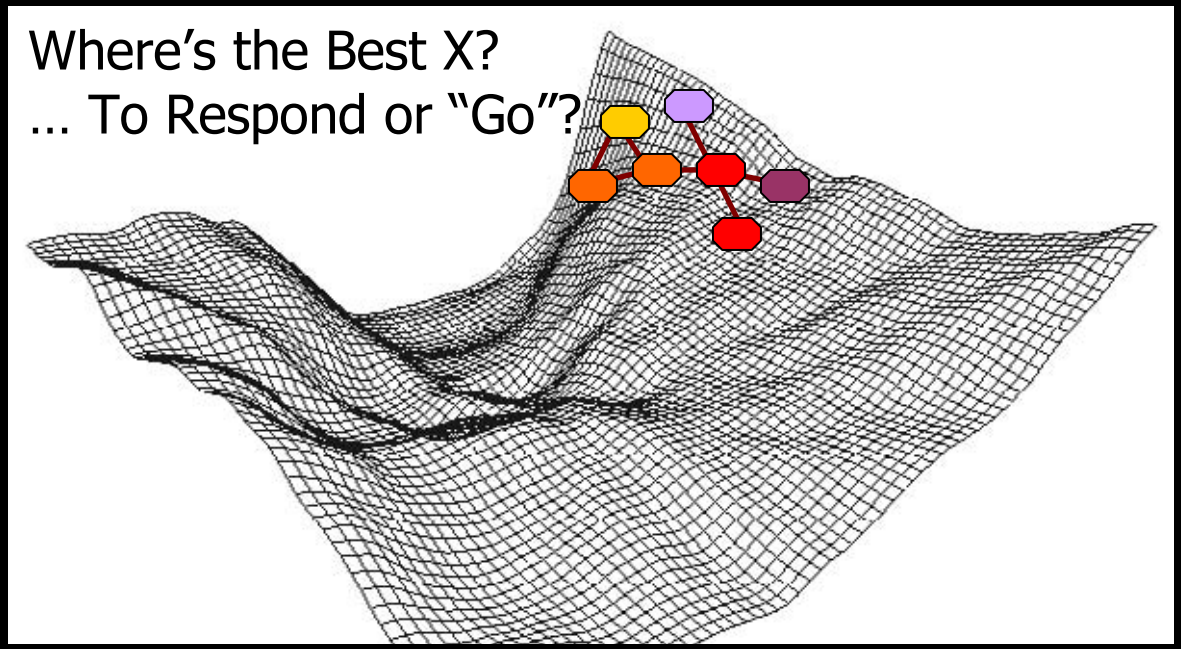
Active Participants Can Ask Interesting Questions
As Well As Provide Answers That Trigger Further Investigation



Why An Ecosystem Approach?

Chatter and Collaboration: Active Participants Can Also Swarm Around Interesting Features

Don't Want Passive Viewing, Need Active Participants

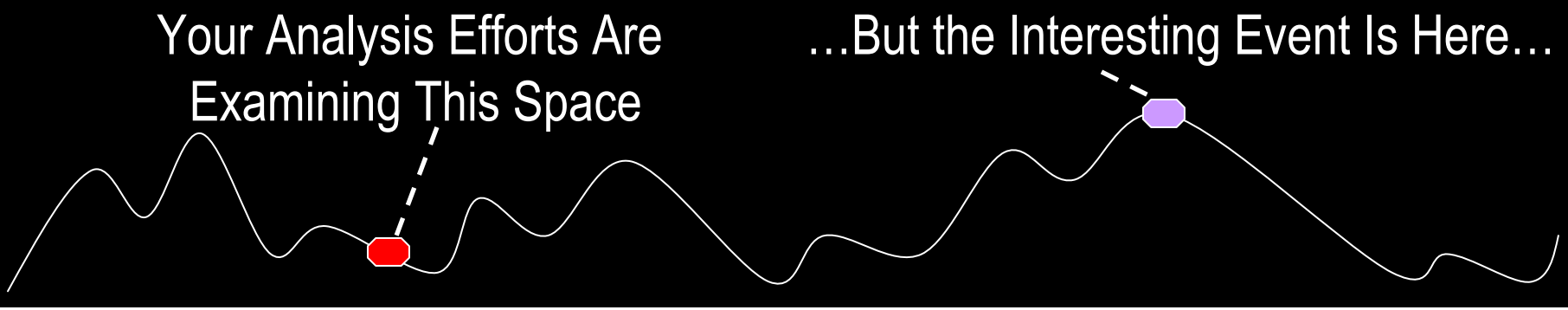


Applying This To Intelligence Efforts

What If What You Want to "Look At" Is Dramatically Different From What You Expected?

Traditional Analysis and Data-Mining Approaches Can Limit Your Diversity

Limit What Adaptability You Have To Examine Interesting Features of an Unknown Environment

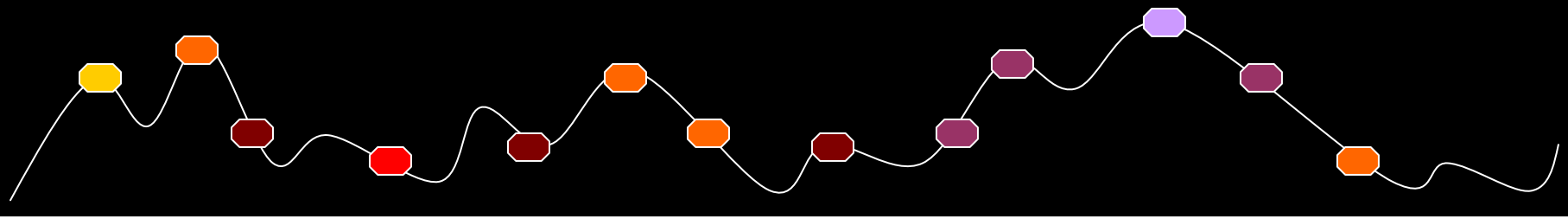


Applying This To Intelligence Efforts

Need A Diverse Group of Individuals Free to Provide:

(1) Their Perception of Elements in the Environment
(2) Comprehension of Their Meaning, and
(3) Projection of Their Status in The Near Future

… i.e., Employ Emergent Collaborations to Help Provide Better Situation Awareness and Decision Options



Applying This To Intelligence Efforts

If We Can't Control It, How Can We Do This?

Actually, It's Already Been Done In Several Instances:

Sermo, InnoCentive, Digg, Intellipedia, Seriosity and several more…