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Creating value from uncertainty

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Complexity and project risk management

PMI Melbourne June 2016

Presented by Dr Stephen Grey



Does complexity affect you?



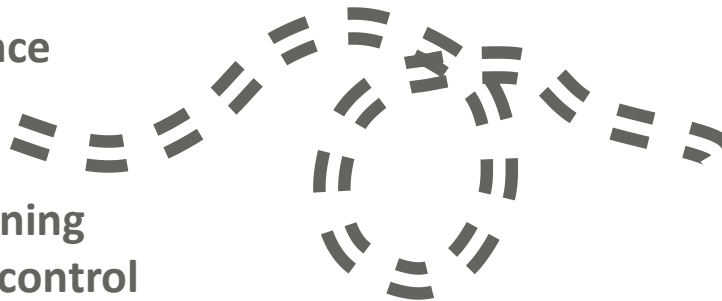
Do you know

- How to recognise it?
- What to do about it?

Complexity creates risk!

Does it?

Systems science
Modelling
Forecasting
Detailed planning
Tight change control
Objective control



Complexity science
Sensing
Continuous
readjustment
Setting the envelope
Co-evolution

Complexity

How to recognise it

Why it matters

What to do about it

Relationship to risk

Recognising complexity

One view of complexity is seen in the way purpose and patterns can be discerned in the mass behaviour of a large number of simple separate components of a system: flocks of birds, traffic flows, schools of fish

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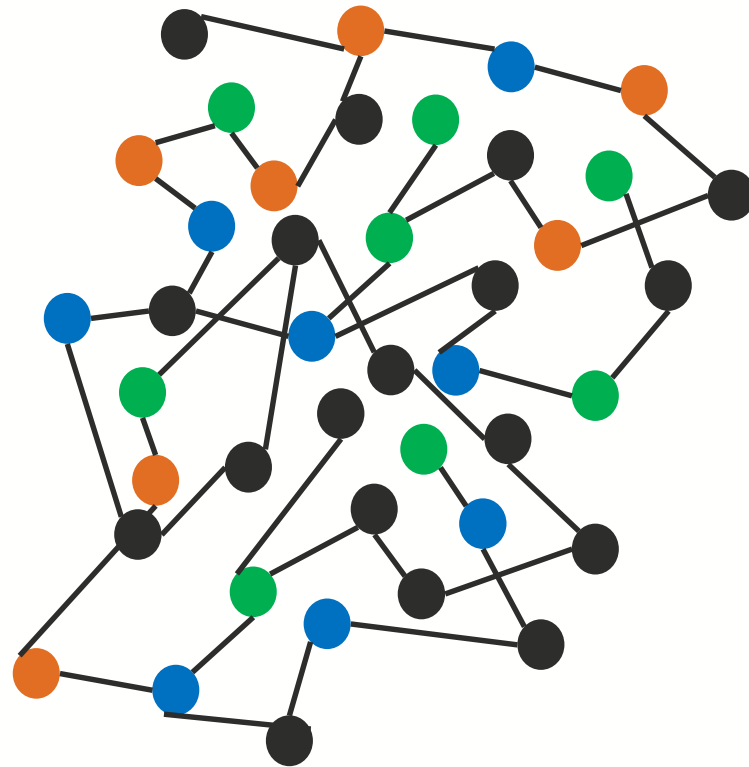
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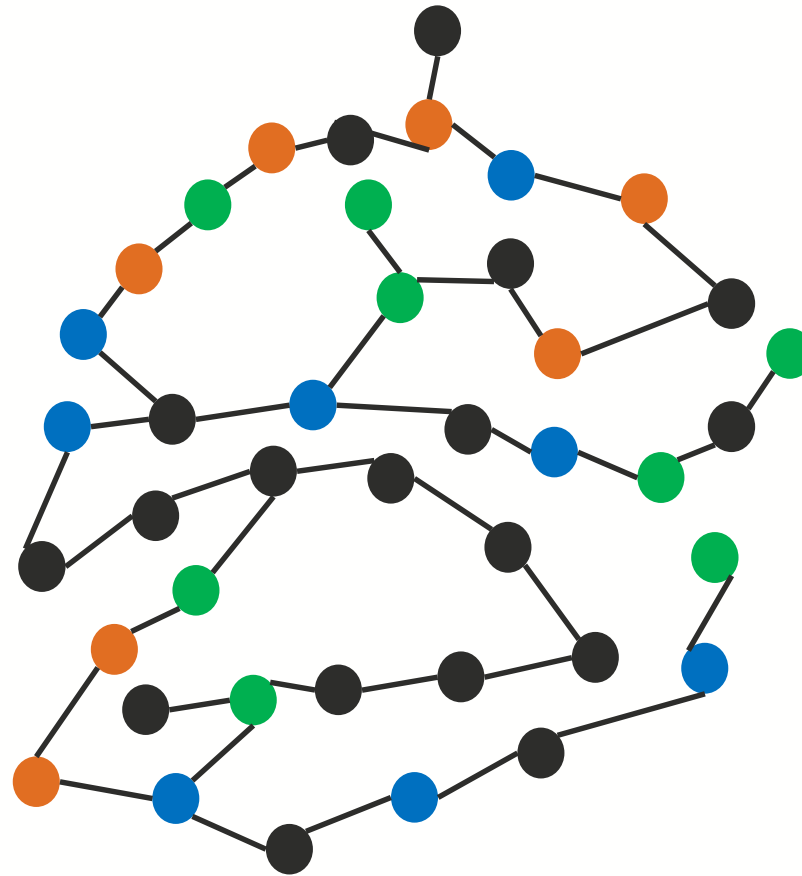
The behaviour of flocks of birds shows us that mass behaviour can emerge from a large number of individuals interacting but it does not help a lot with understanding projects

Another approach is to look at the number of components in a system and how they are connected to one another – structural complexity

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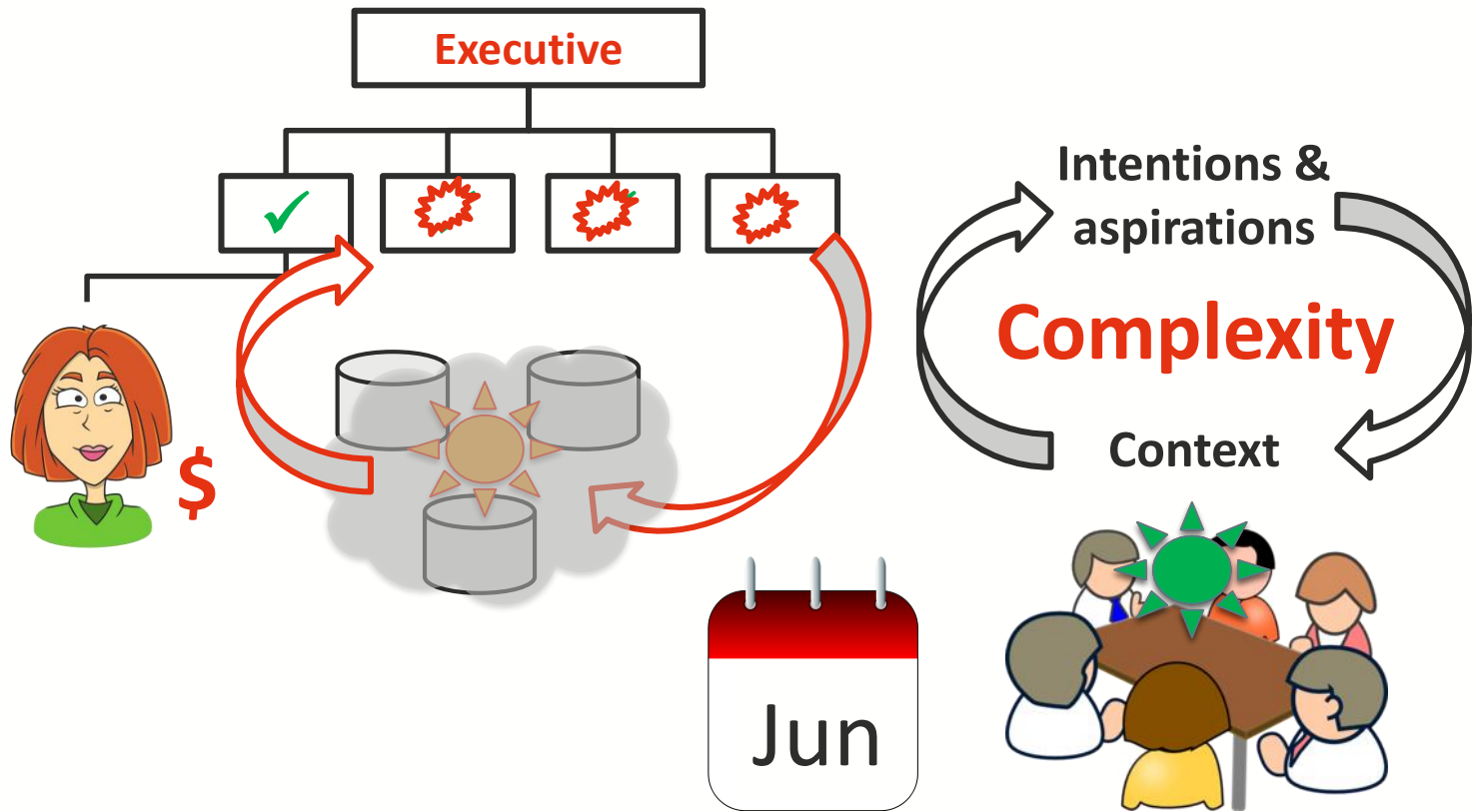
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There might be some applications for structural complexity but it is a complicated form of analysis and again not especially useful for human systems.

The most useful approach comes from looking at the people in a system and how they interact with their context.

Alice's project



If it wasn't for the people involved ...

Partially aligned intentions and aspirations

Alignment, diversity, fluidity

People can change the context

Stakeholders exercise influence

The context changes their intentions

As they see what is going on and what is possible, they change what they want

Why it matters

Nothing new, I know how to fix that ...

Stakeholder consultation

Scope definition

Change control

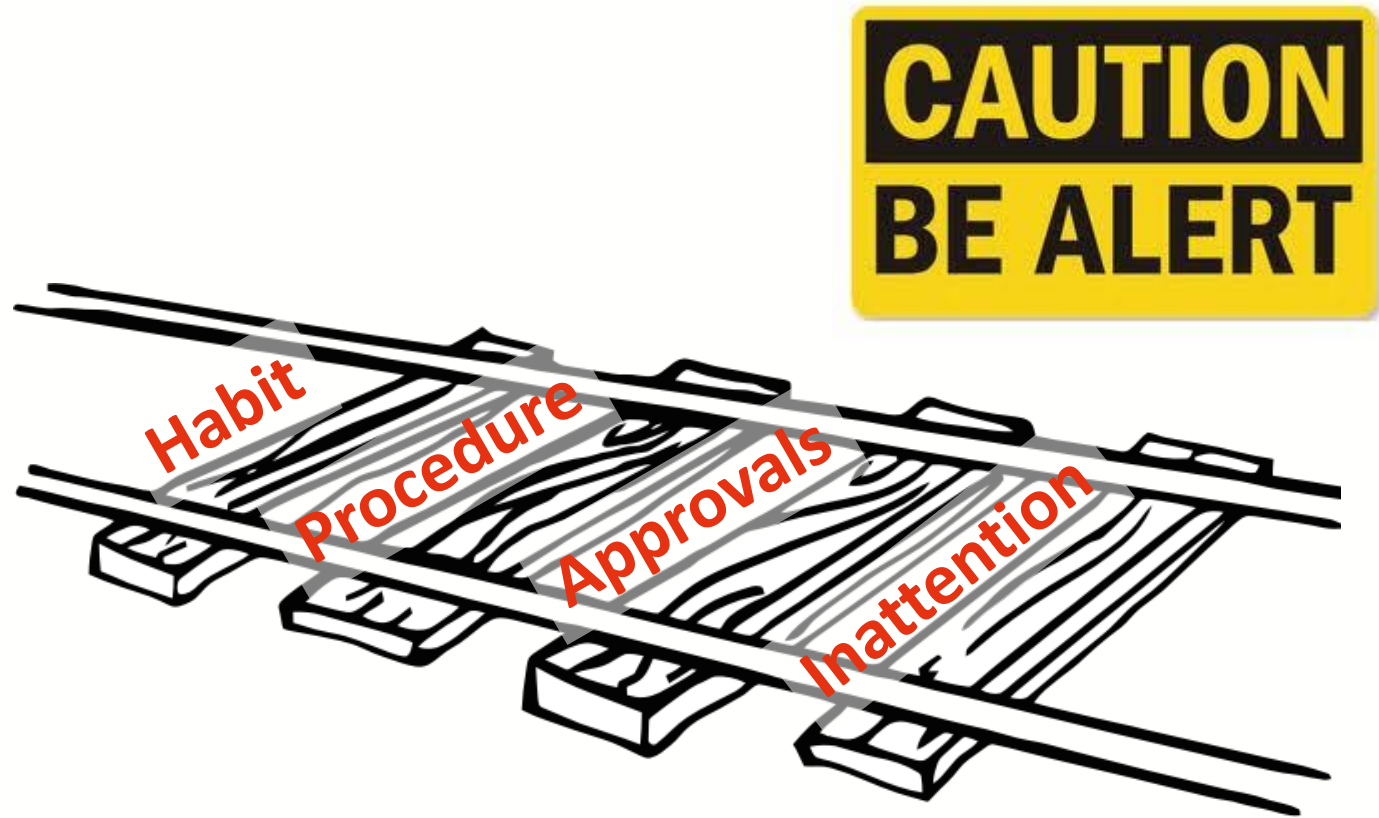
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What made sense a month ago might not now

What makes sense now might not next month

Linear thinking can't keep up

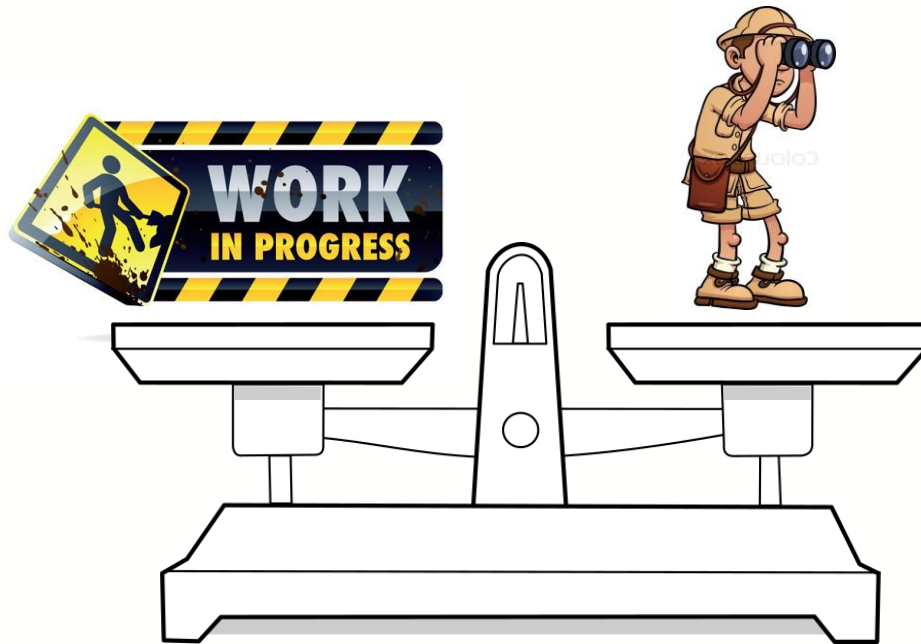
Patterns and habits



Balance

Get the job done!

Stay in touch and spot early signs of disturbance.



Major 
disturbance to
your work

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**Feel our way
and keep
options open**



**Get some
experts to
look at it**

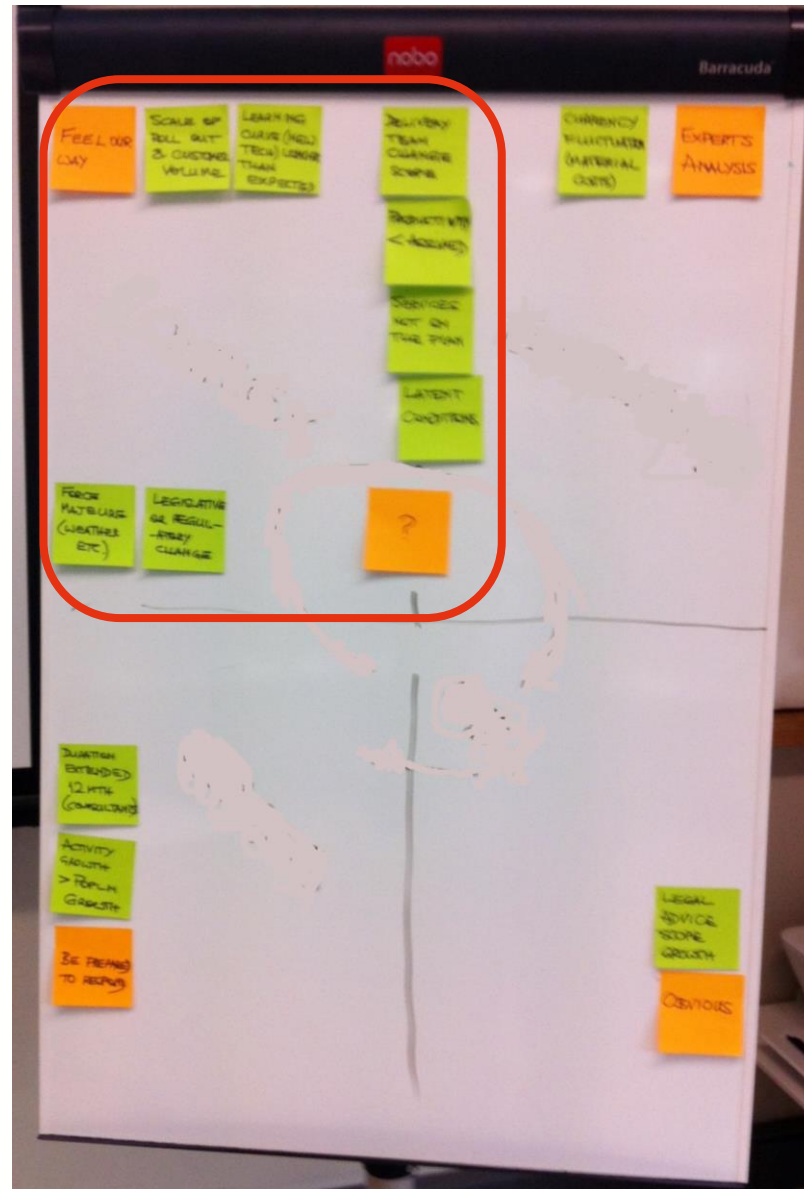


**Be ready
to respond**

**It will be
obvious
what to do**



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**Feel our way
and keep
options open**

**Learning curve
extended**

**Regulatory
change**

**Consultation triggered
12mth extension**

**Be ready
to respond**

**Delivery team
modify scope**

**Productivity
less than
assumed**

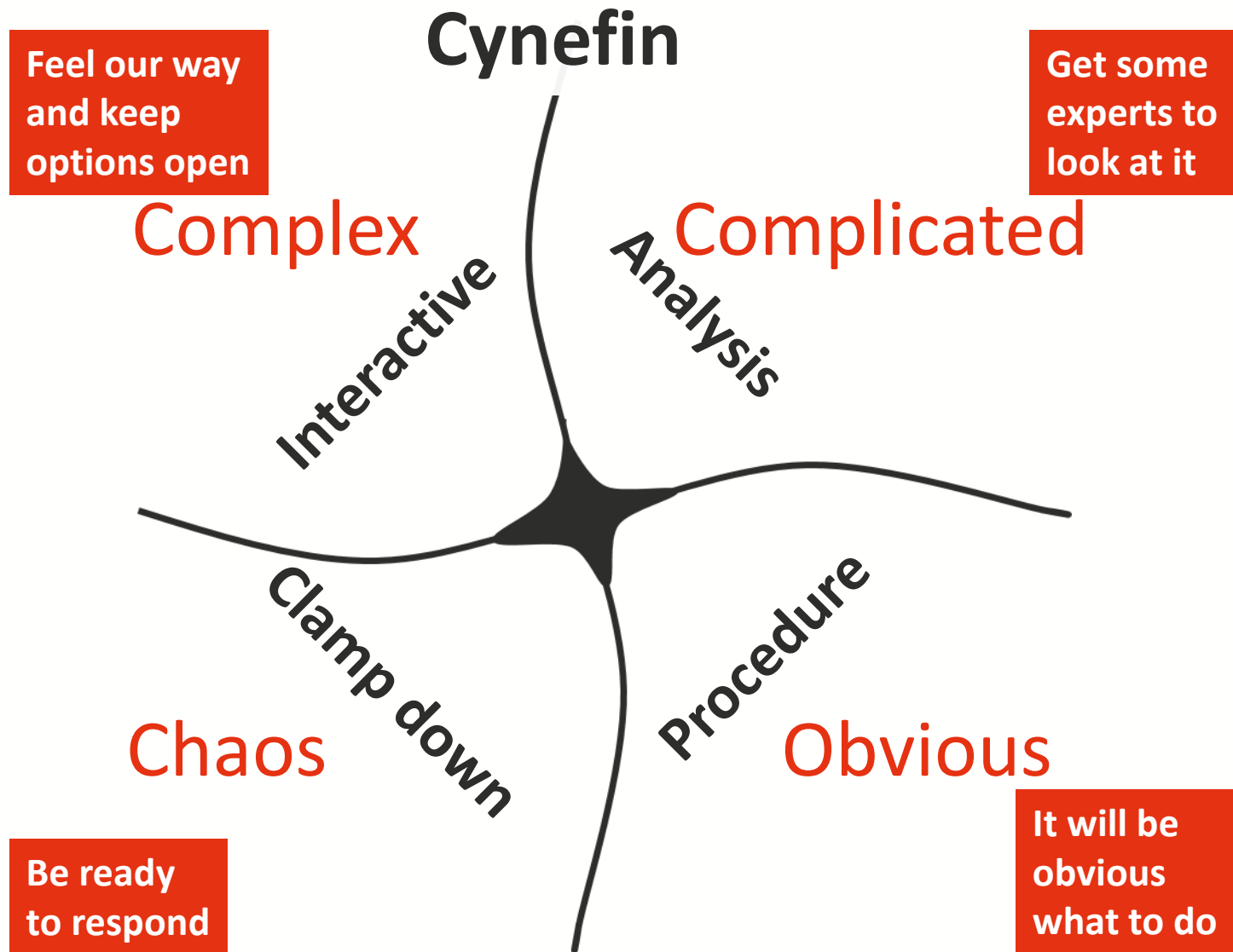
**Get some
experts to
look at it**

**Forex variation
causes material
cost growth**

**Poor legal advice,
scope growth in
legal services**

**It will be
obvious
what to do**

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For more on the Cynefin framework and the large body of work that flows from it, see the Cognitive Edge web site, search for Cynefin on YouTube or ask me for references that I can email to you.

What to do about it

Principles

Keep options open

Exploit stakeholders

- Distributed input
- Granular insight

Disintermediation

- Link insights directly to decision makers
- Avoid expert analytical filtering

Anticipatory awareness

- Spot weak signals

Narrative capture

- Workshops
- Web enabled



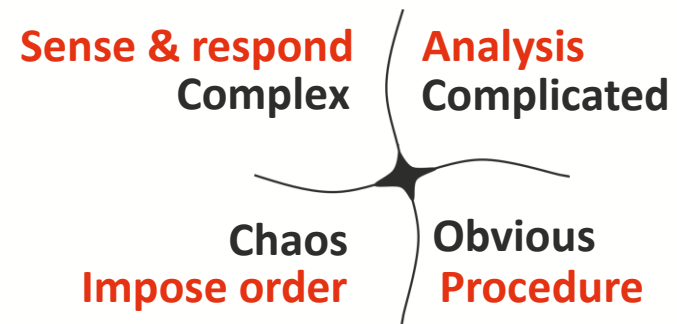
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SENSEMAKER

SenseMaker™ is a product of Cognitive Edge that allows narrative capture to be used to gather insights from large numbers of people, over time if appropriate, and for patterns in the responses to be identified that assist in making sense of a system as it is now and is likely to develop.

Two simple ideas

Work out which domain you are about to enter before starting

- **Whole project**
- **Important parts**



Where it is **Complex**, treat everything you do as much as a context update as it is a task completion

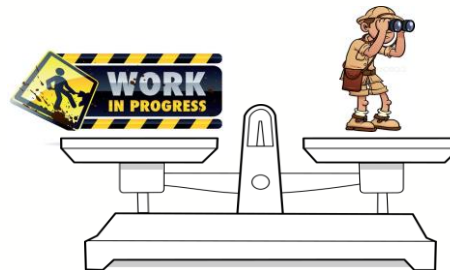
Risk and complexity

Complexity causes risk?

Only if you let it

- Rigid structures
- Close off options early
- Trying to impose an outcome that might not fit

An approach designed for ordered behaviour will be swamped by a complex system



What approach will suit your project?

Think about it!

Can an orderly approach be successful?

- Stakeholders exercising influence
- Stakeholders shifting position
- Learning as we go

Is your project being disturbed by its environment or is it trying to impose itself on an environment that has its own ideas?

- Disturbance demands adaptability
- Imposition generates push back

Can you work with your environment?

Complexity is challenging

It doesn't cause risk

**The way we respond to it
causes risk!**

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The closing cartoon is copyright, see

<http://leunig.com.au/images/cartoons/how-to-get-through-it.jpg>

for the original

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If you would like further information about this topic, please contact us.

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