



Information Architecture for Strategic Decision making

Patrick Hoverstadt & Lucy Loh
Fractal



About Fractal

- Consulting, training, education & research:
 - Strategy
 - Organisation diagnosis
 - Organisation development
 - Organisation design
 - Organisation transformation
- Systems, cybernetics & management science
- Private, public & 3rd sectors



Today

- Relationship of EA to the Organisation
- Role of EA in relation to decision making
- Decision centric design:
 - Organisation structure
 - Information structure
 - Design factors
- 4 (quick) cases
- Enhanced role for EA



Role of EA...?

- Technical input to the enterprise design, both organisation and IT
- Design information & IT support for operations
- Manage changes to the architecture inc. : structure, purpose, partnerships etc.
- Support governance of architecture inc. : interfaces, coherence, standards etc.
- Make the organisation's complexity understandable so managers they can actually manage
- Design the information and decision structure so decision makers have the information to take the right decisions at the right level with the right information.



Strategic decisions & structure

Traditional view of EA: *“They” decide strategy. Our job is to design the organisation to meet the needs of the strategy*

So structure follows strategy.

BUT....

Around 90% of strategic plans aren't implemented...

SO....

1. Why would we design for something with only a 10% chance of happening?
2. The strategy emerges from the organisation interacting with its environment. If the information structure wasn't designed to inform strategic decision making – no wonder if strategy fails

SO...

Strategy follows structure

Our job is to design the organisation to take well informed decisions



Power of Information



“As a rule, he or she who has the most information will have the greatest success in life”

Corollary:

“organisations take the decisions they have the information to take”



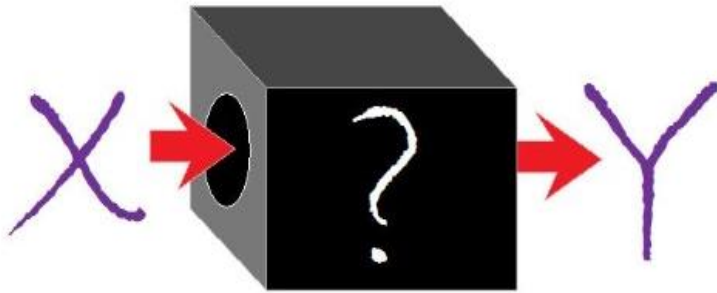
Redundancy of Potential
Command Principle:

“In any complex decision network the ability to act effectively depends on an adequate concatenation of information”



Organisation & Information Structure for Decisions

“Simple”
cybernetics model



- Decisions structures as “Black boxes” :
 - Part of the organisation structure
 - Requires an assembly of organisational resource
 - Not clear what happens inside – in the process of taking a decision
- Information structure as “wiring”
 - Information feeding the decision
 - Communicating the decision
 - Inputs condition the outputs

- If you want good decisions: you need both box & wiring to be in place & appropriately configured & connected



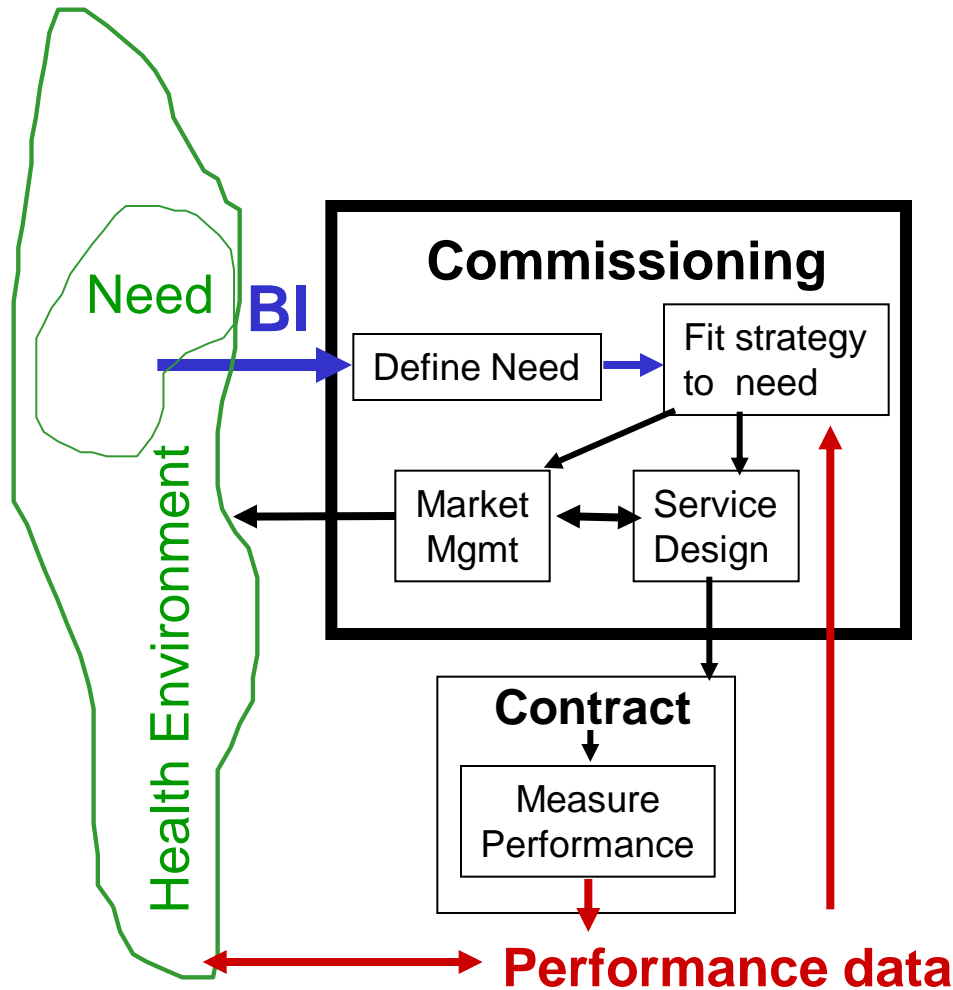
Black Box present, but Wiring missing..



- Missing / weak / biased information structure
- 2 classes of information “feed”:
 - Internal, current / historic – “hard”: performance data
 - External & future – “soft”: forecasts, scenarios, intuition
 - BOTH essential, but different in nature
- Balance (through time) is critical
- Asymmetric information structure drives decision bias – this is common



Black Box present, but Wiring missing.. NHS Commissioning



- PCTs set up to act as decision makers – choosing health services
- Sub-agenda: to break the cycle of repeat contracting
- Use of BI in 9 PCTs for commissioning
- Role of commissioning to identify health needs and commission services to address those needs



NHS Commissioning... Findings

- BI on health needs was unavailable / low quality
- Performance management “data” was available
- PCT’s used PM information to manage contracts
- Reinforced annual cycle instead of breaking it
- McCulloch : availability of information determined which decisions could be taken
- PCTs weren’t doing their job – nobody realised
- Unmet needs & health inequalities not addressed:
“1 year drop in life expectancy for every mile travelled across the city”



Wiring present, but Black Box missing - no decision structure



- Without ownership, focus and resource organised to take a decision it doesn't happen
- Information with no “organisational home” to go to, just dissipates
- Customer complaints
- Clwyd:
 - Info available
 - Nobody to hear it or decide
 - So, no action

Return to an Address of the Honourable the
House of Commons dated 15th February 2000 for the

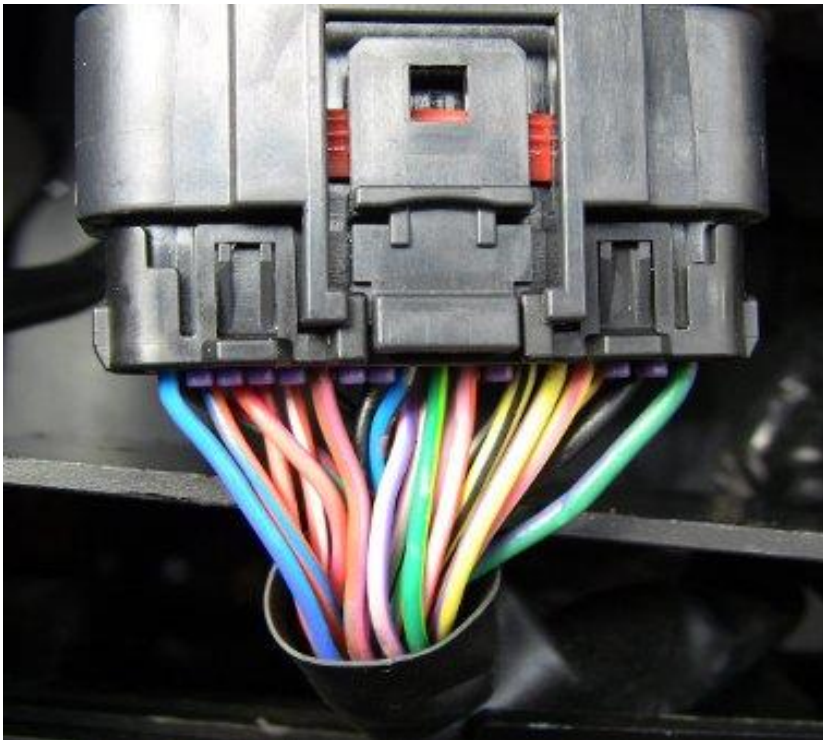
**Report of the Tribunal of Inquiry
into the abuse of children in care
in the former county council areas
of Gwynedd and Clwyd since 1974**

Lost in Care



Getting it right...

Wiring and Black Box linked & aligned



- Right inputs to the right box
- Design Black Box
- Design the Information structure to fit the Organisation structure
 - What information does a decision need?
 - Actually connect up the information to the decision
 - Build a regulatory loop to show it's working



Getting it right... Client Case Study

Situation:

- 'Large' IT company
- Industry leaders
- VERY strong culture
- History of innovation

Symptoms

- Stagnant performance for 3 years
- Sector facing end of life / serious strategic risk
- Falling morale – loss of direction and losing key talent



Getting it right... Client Case Study

Organisation & Information

- Product departments & divisions trying to take both long & short term decisions
- Information structure biased to short term performance not long term market trends
- No decision structure to take company wide assessment of risk & opportunity
- Structure for taking sub-optimising decisions that didn't work at either tactical or strategic level



Separating long and short term decisions

- Redesign the black boxes
- From: 6 Customer & product divisions
- To: 3 Product lifecycle (time) divisions
 1. Run existing business – focus on efficiency, reducing costs & quality of service (6 month horizon)
 2. Build the next big thing – radical innovation to build a new offer & market segment (2 – 10 year horizon)
 3. New ventures – disruptive innovation to find / build a new sector / lifeboat (5 -10 year horizon)
- Redesign information feeding those black boxes



9 Month Results

- Division 1 (existing business) delivered:
 - immediate - 20% year on year growth after a 3 year period of stagnation with $\approx 20\%$ fewer staff
 - & potential to double the existing business
- Division 2 (Next big thing) has selected, market tested and is developing a product with potential to triple the business
- And Mojo restored
- Same people, but taking different decisions using different information

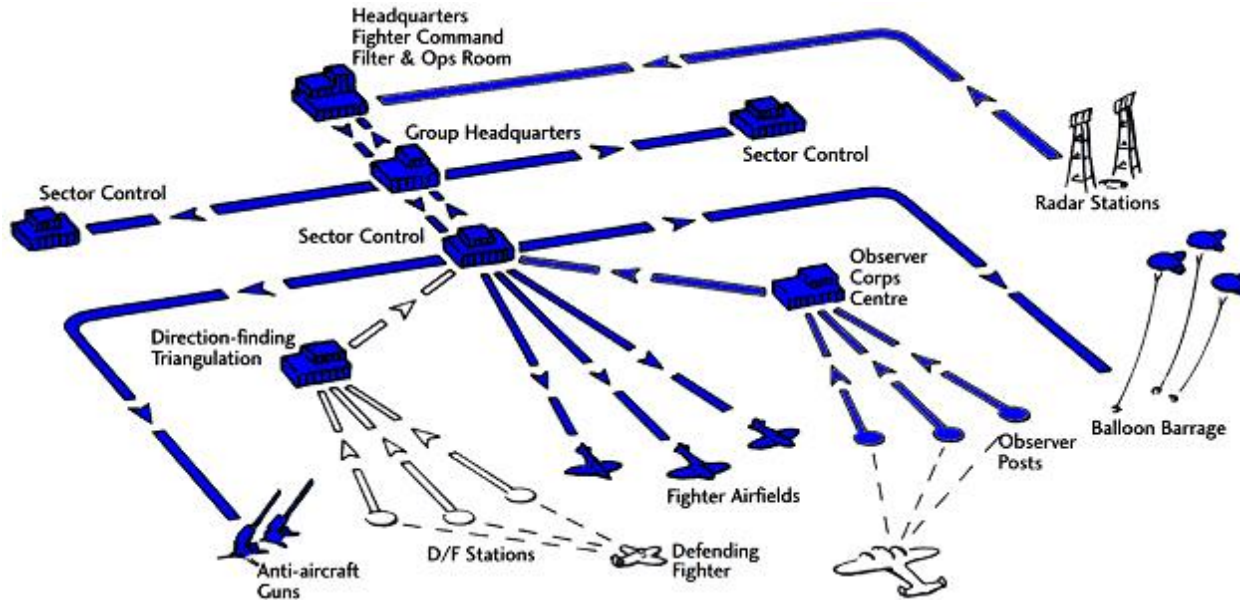


Information structure design

- **Start with the decisions**, design information structure to fit them, not the other way round
- Design factors:
 - Speed of decision action cycle critical & depends on speed of information processing and refresh
 - Amplifiers & attenuators: filter and chunk to improve signal to noise ratio (> 50% decisions based on noise)
 - Transducers: every time a signal crosses a boundary it gets distorted / re-interpreted, so presentation is key
- None of these is common in EA



Information structure design: the first OR (EA?) project



- Decision led design
- Design factors:
 - Speed of decision action cycle critical & depends on speed of information processing
 - Design of amplifiers & attenuators
 - Design of transducers





Enhanced value proposition for EA

- Information structure design is Meta-Strategic:
 - Decision quality depends on information
 - So.... information supply can determine strategy
 - EA designs / should design the information feeding strategy
- Without deliberate design, information for decision making can be arbitrary, so decisions can be arbitrary
- Improving decision making is one of the two highest leverage activities for EA
- Focus on decision making bridges gap between EA and the organisation – enhance EA's actual & perceived :
 - Relevance
 - Usefulness
 - Value