

Developing a Risk Method for the Analysis of UK Network Enabled Capability

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Introduction

Network Enabled Capability (NEC) is one of the MOD's highest priorities for investment. The 2004 command paper *Delivering Security in a Changing World: Future Capabilities* defines NEC as the coherent integration of sensors, decision-makers and weapon systems along with support capabilities. It notes that NEC is also about more than equipment; it involves coherent integration across all the Defence Lines of Development.

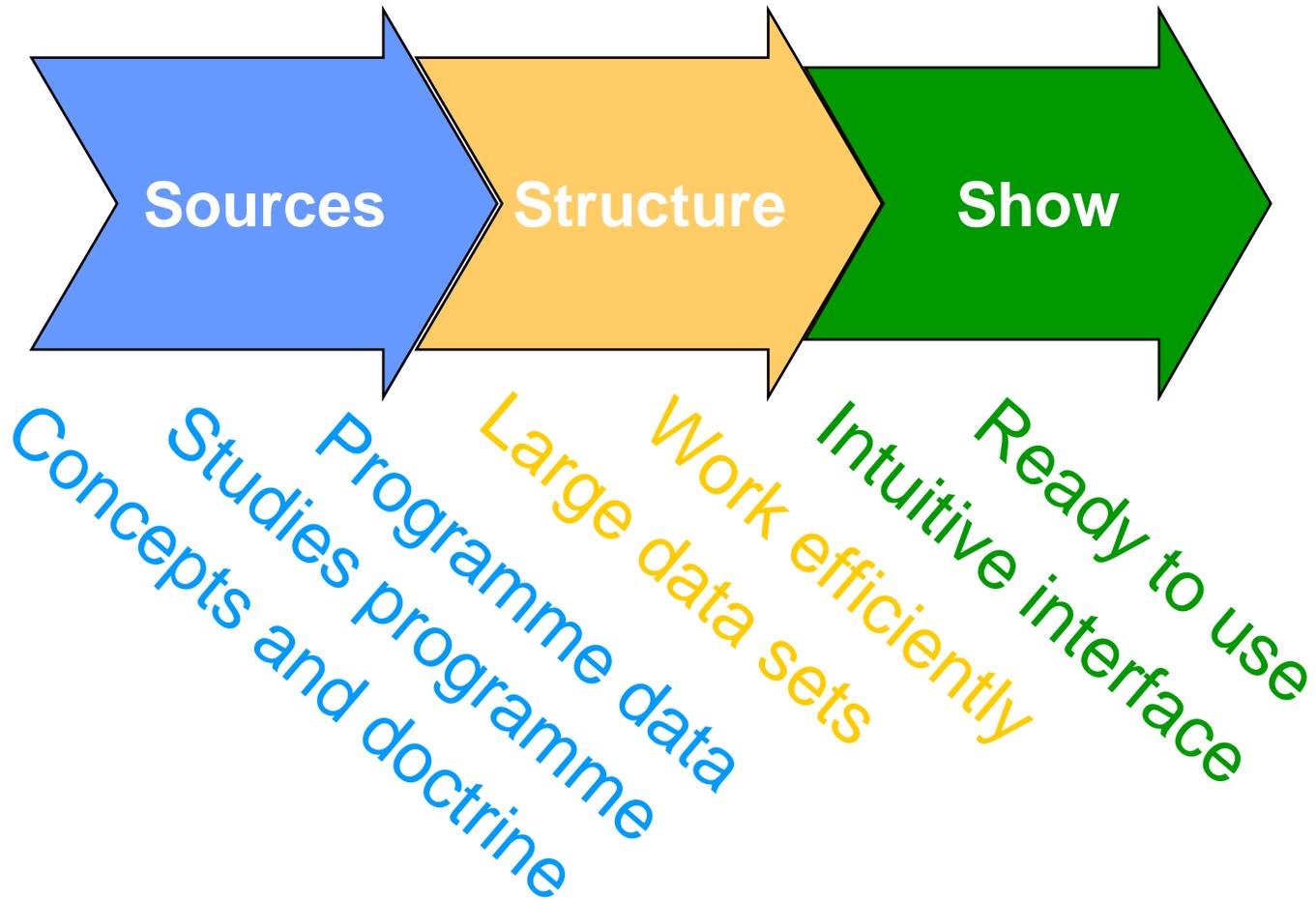
Top Level Requirements

To support the implementation of NEC, a prototype tool – known as INteract: Informing NEC through Effects, Risk and Capability Timelines – has been produced to assess risk and prioritise the alignment of programmes whilst considering the impact on capability.

Characteristics

- Manage the Complexity without over simplification
- Account for the Interdependency between options
- Treat Uncertainty in futures, values and decisions
- Provide requisite Transparency
- Enable a Responsive solution

Requirement



INteract aims to provide:

- A comprehensive view of equipment programmes mapped to capability.
- Identification of potential problems using risk analysis.
- Improvement of equipment coherence through the visually assisted alignment of programmes.
- Straightforward assessment of the impact of programme changes in effects based terms.

Risk Based Approach

- Single value modifier
- Probability severity distribution
- Re-use causal model

Probability of the candidate solution is chosen

Probability of the solution shortfall or capability gap

Risk is the probability of an event happening and the resultant impact of that event

The severity of the shortfall or capability gap

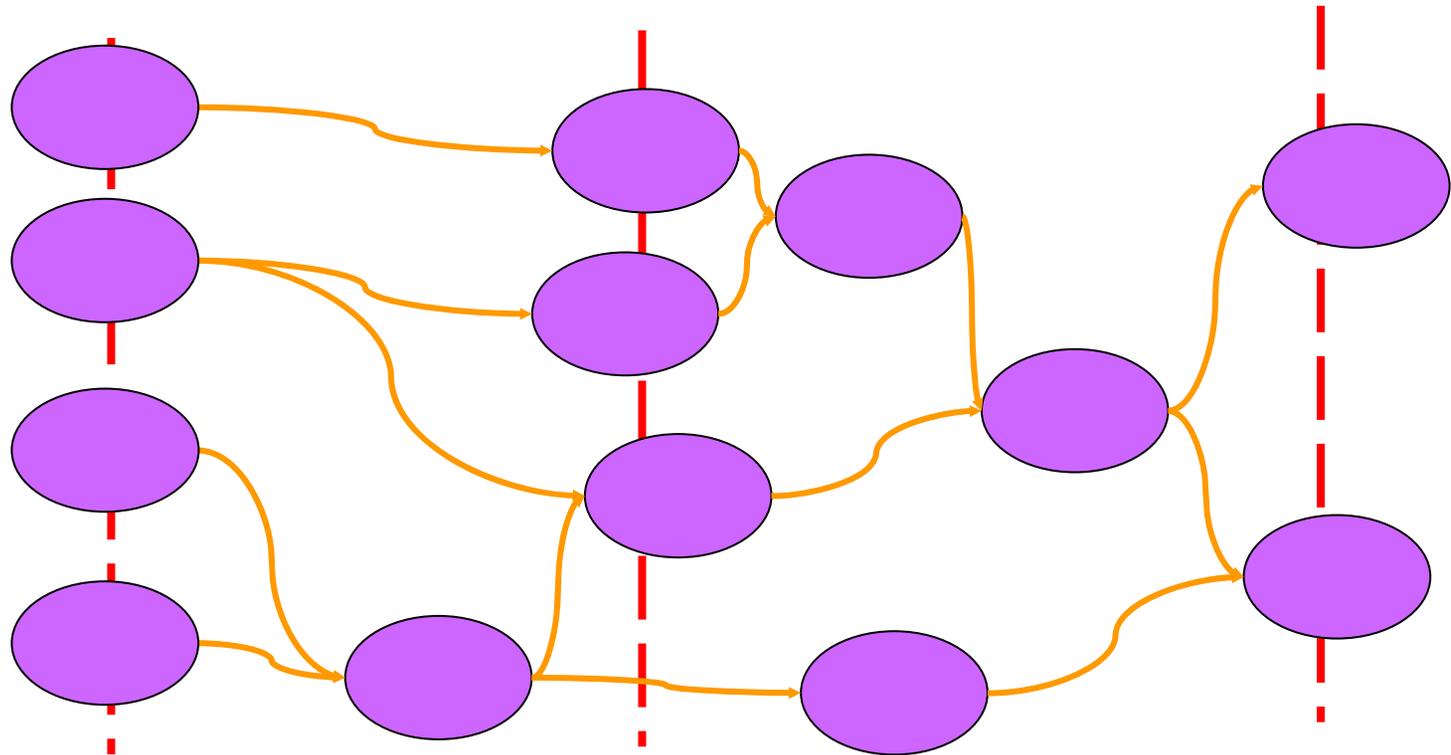
The consequence of the shortfall or capability gap

Capability risks are elicited through problem structuring

Investments

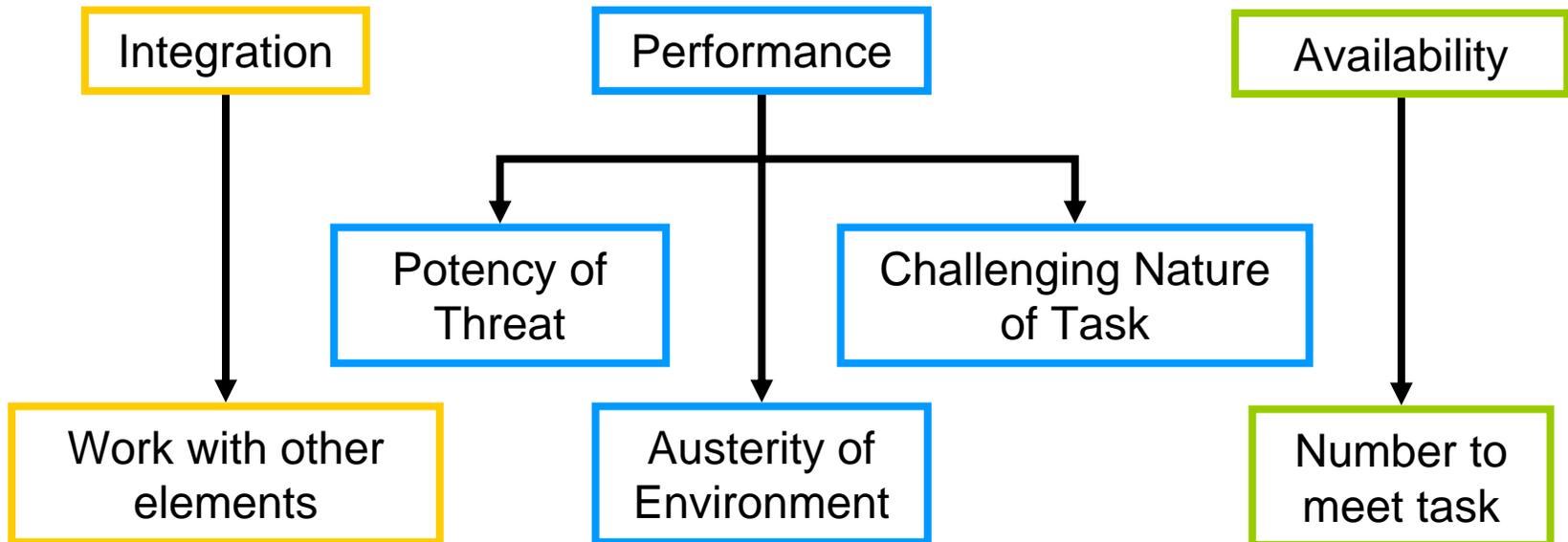
Activities

Operational
Effect



Node descriptions characterise the capability

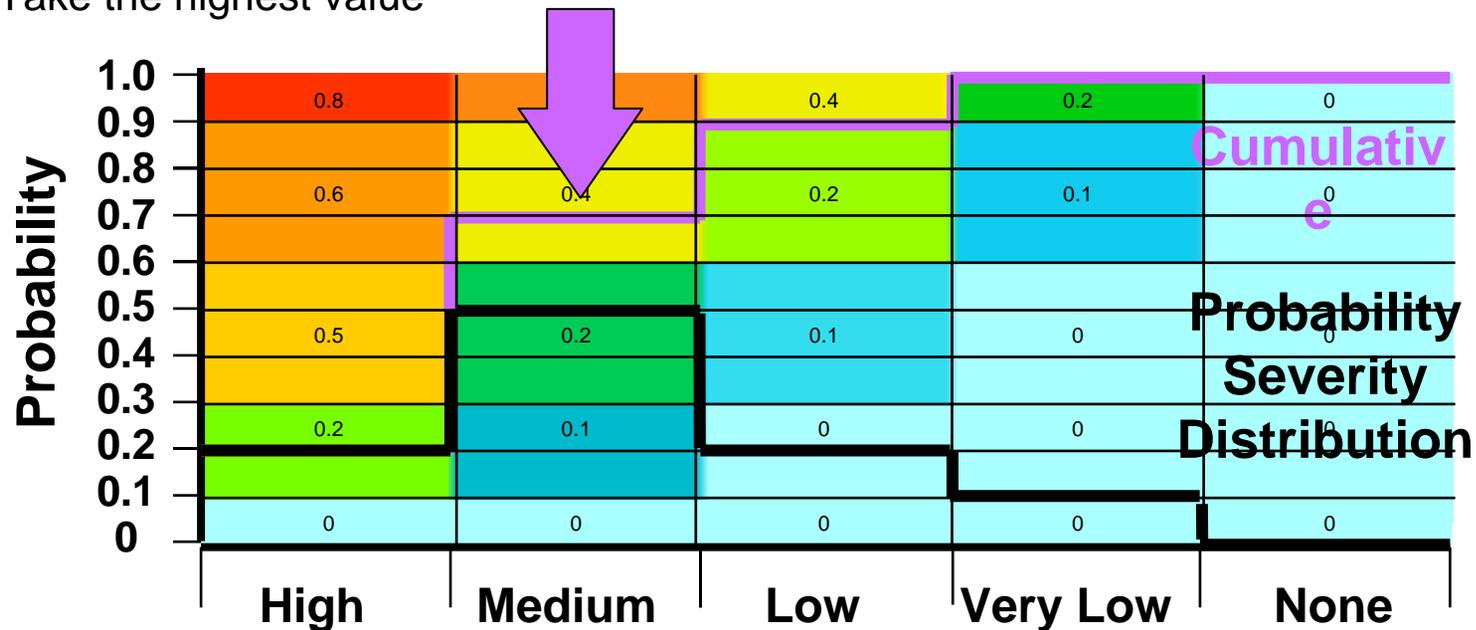
Classification of Capability Risk in the Investment:



Eliciting the risk scores

The probability severity distribution can effectively be reduced to a single number :

- 1) Understand the distribution
- 2) Build the cumulative
- 3) Overlay on the PSG
- 4) Take the highest value

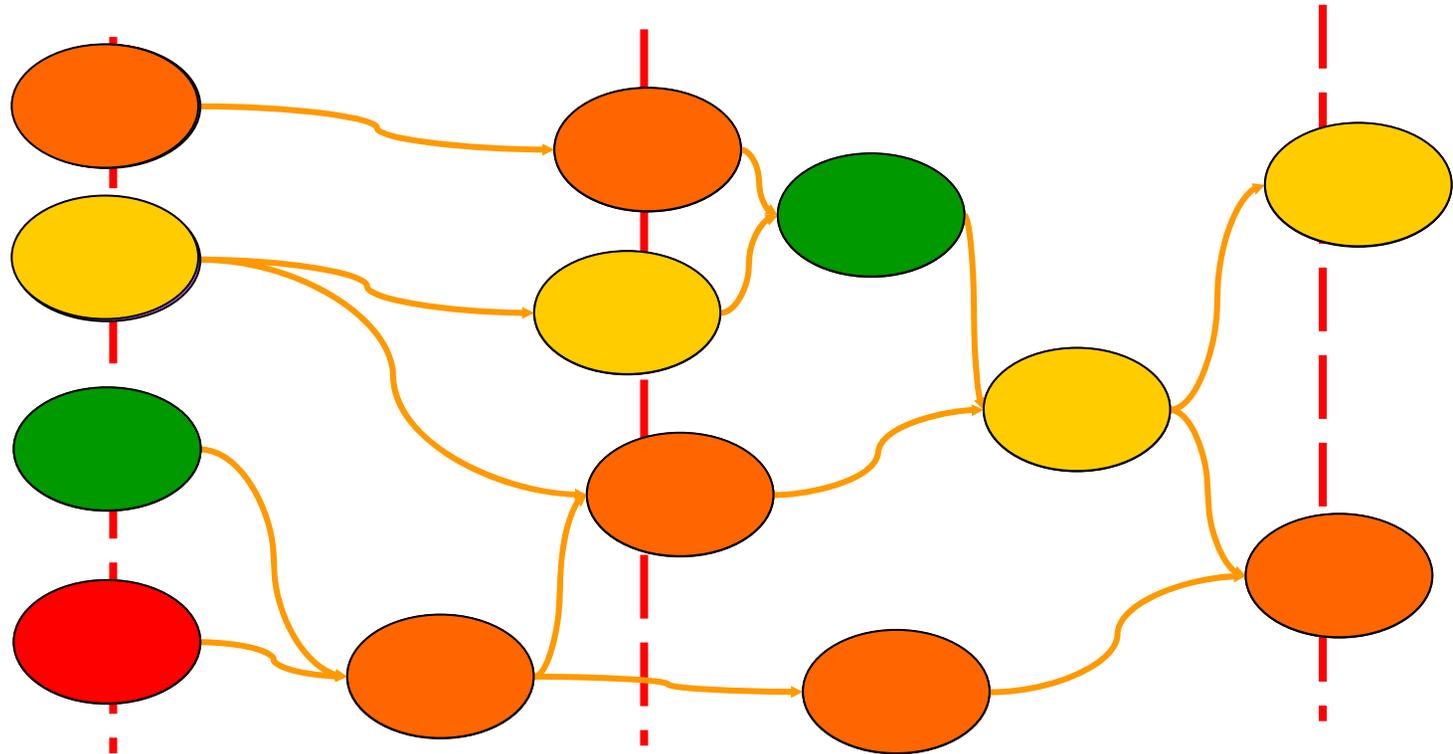


Consequence using causal mapping

Investments

Activities

Operational
Effect



Link Categorisation

Links (Interactions) are classified according to contributions to risk:

Compounding Interaction

- All elements of the capability are required to deliver the effect and must be matched to each other

Contingent Interaction

- All of the elements of the capability are required to deliver the effect but not necessarily matched (some compensation)

Mitigating Interaction

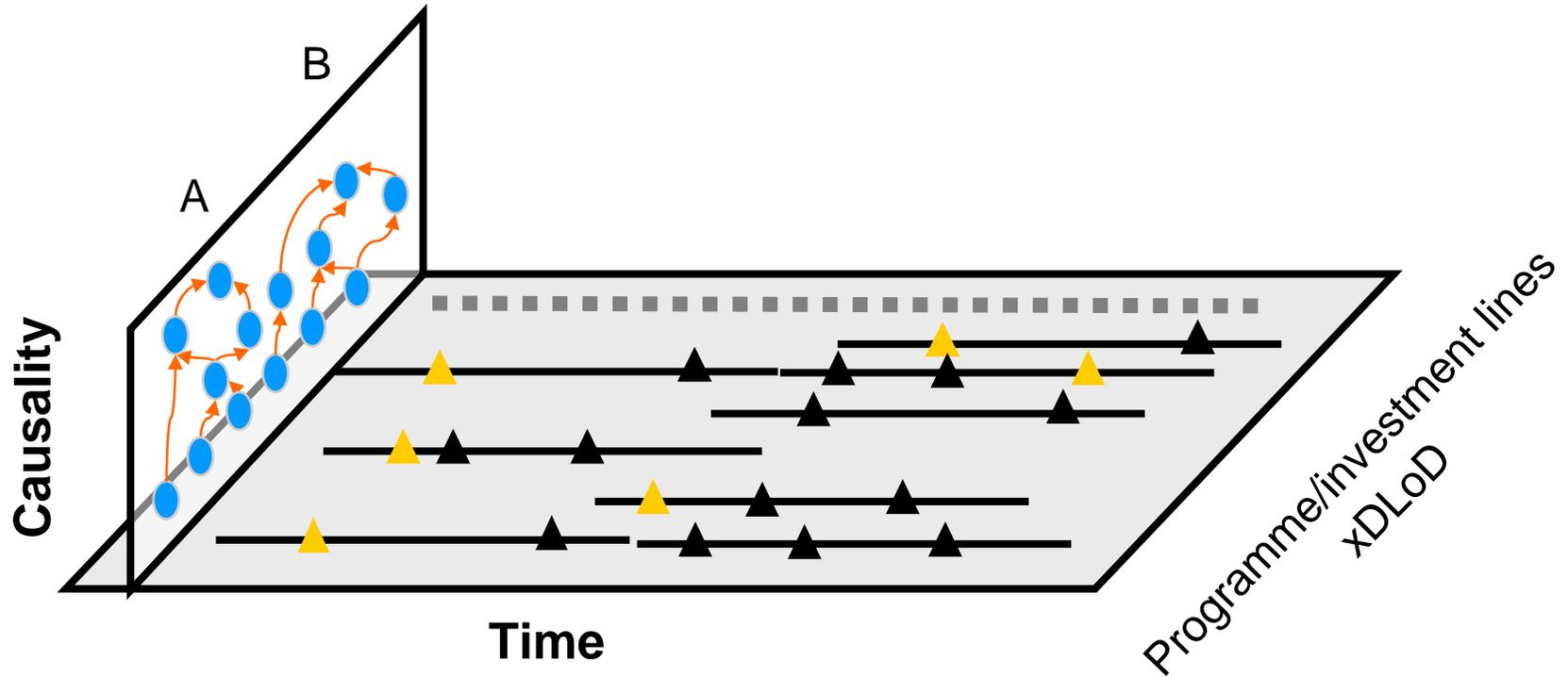
- Only One element of the capability is required to deliver the Effect

Over time...

Characteristic of Effect A



Characteristic of Effect B



How does it help?

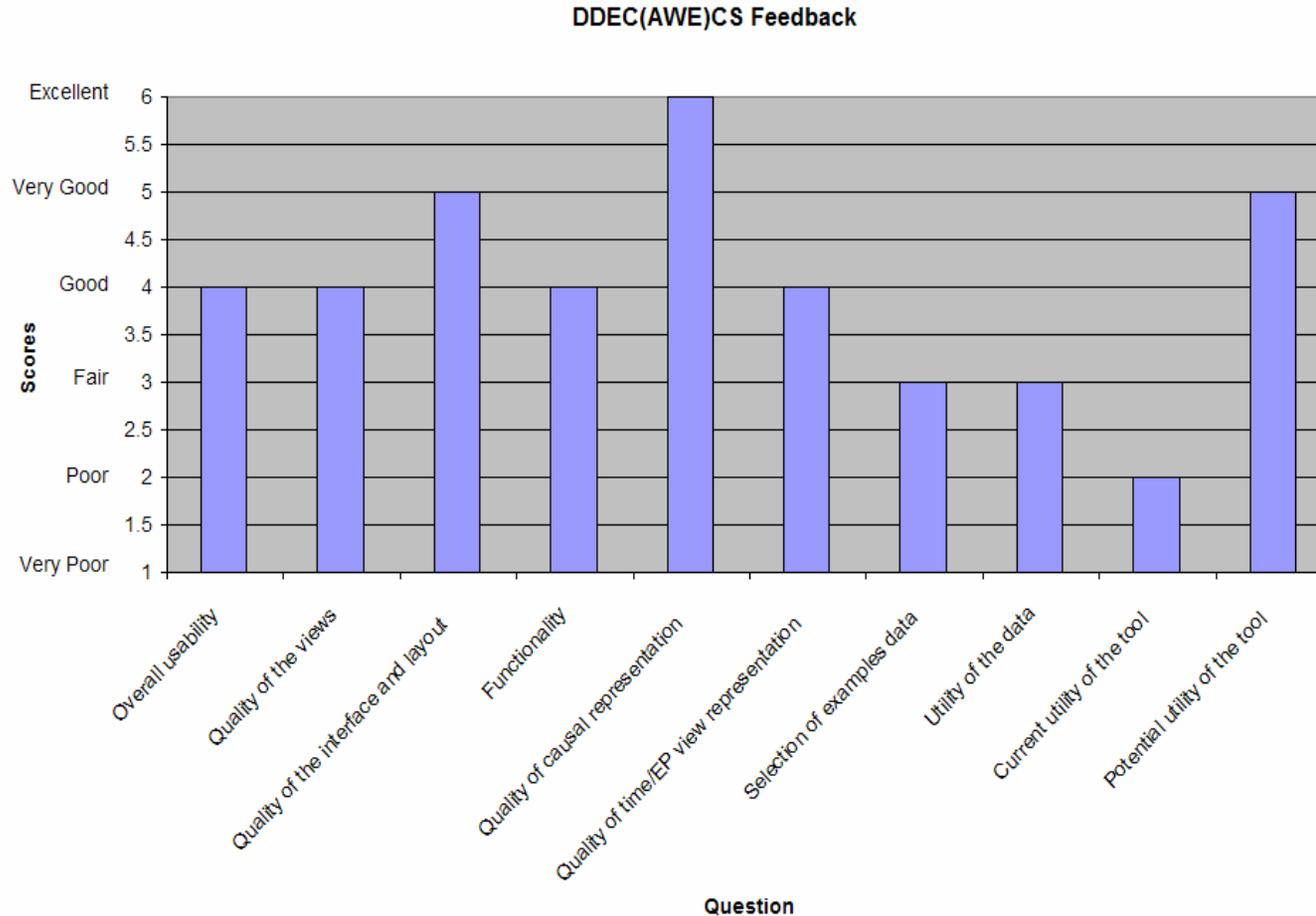
Provides method for benchmarking capability to inform investment decisions

- Manages the complexity inherent in the NEC era
- Available on the Desktop
- Common format data repository for issues and risks associated with capability

What questions can I answer with INteract?

- What is the overall level of risk within this capability?
- Over what time frame is this capability valid?
- Which projects/programmes constrain the capability in time?
- Which risks contribute to this result?
- Are there any “Quick Win” risk mitigations?
- Which systemic risks must be reduced?
- Can any of the risks be allowed to increase without a significant impact?

Feedback



Questions

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