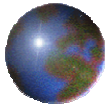


ARCOM
22nd Annual Conference
UCE, Birmingham, UK
Mon 4th – Wed 6th September 2006



Project Reporting and Complexity

<p>Antoniadis D.N. (Project Leader with BAA & Research Student at Loughborough University)</p>	<p>Edum-Fotwe F.T. (Loughborough University)</p>	<p>Thorpe A. (Loughborough University)</p>
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22nd ARCOM Conference
UCE, Birmingham, 4th – 6th September 2006

The speaker

D.N. Antoniadis

Project Leader with BAA working at the £1.8bn Heathrow East Terminal.

Currently doing a part time PhD in Project Management at Loughborough University, with an MSc in Project Management and over 20 years experience in Construction Project and Programme Management.

Worked, at various management levels, for Client organisations, Contractors and Consultants.

Also led a number of change initiatives including the setting up of three Programme Offices.



What I will talk about?

- The issues and how do these occur
- The Complexity characteristics
- Complexity and Reporting
- Addressing the issues
- Challenges for the future



Why Reporting?

Einstein said: “*The major problem in communication is the **illusion** that it has occurred*”

Why Complexity?

Einstein said: “*You cannot solve the problem with the same kind of thinking that gives rise to the problem*”



What are the issues with Reporting?

Project teams have to deal with intricate problems that involve interconnections and interactions of structures, systems and people

How do these issues occur?

- ✦ Reciprocal interdependencies
(regulation of the boundaries, filtering, the medium used and the message it self)
- ✦ No coordination and inappropriate frequency of bi-directional flow of information - (n^2-n) {where n=number of info nodes}
- ✦ Contractual and procedural requirements
- ✦ Restricted self-organisation of units
- ✦ Systems do not minimise / reduce duplication of effort



Complexity characteristics

Classification of characteristics by type:

- ✦ Conditional
 - ▣ Autonomous Agents, Instability, Non-equilibrium, Non-linear, Attractors
- ✦ Developmental
 - ▣ Co-evolution, Self-modification, Downward causation, Mutability, Non-uniform, Emergence, Phase changes
- ✦ Behavioural
 - ▣ Unpredictability, Non-standard, Undefined values



Complexity and Reporting - 1

Cross referencing reporting issues and complexity characteristics

REPORTING ISSUES

AFFECTED BY:

Organisational structure	Self-modification, Autonomous agents, Instability
Roles within Organisations and teams	Mutability and Instability
Structure of data	Downward causation and Unpredictability
Corporate requirements	Phase changes
Procedural and contract law requirements	Unpredictability (sensitivity to initial conditions)



Complexity and Reporting - 2

Cross referencing reporting issues and complexity characteristics

REPORTING ISSUES

AFFECTED BY:

People issues	Co-evolution, Unpredictability and Non-standard
Software and Technology	Non-linearity, Attractors and Self-reproduction
Information & Communication	Attractors, Phase changes and Instability
Other Project characteristics (e.g. size and frequency of reporting)	Unpredictability, Non-standard, Undefined values, non-equilibrium, non-linearity, co-evolution



Addressing the issues - 1

- Introduce Downward causation, but allow self-modification
- Identify and manage the boundaries
- Introduce dynamic attractors
- Ensure consistency, adjust frequency and density of communication
- When building standard tools allow for non-uniformity expect mutability but restrict tool divergence



Addressing the issues - 2

- Increase co-evolution, but reduce duplication of effort
- Beware of the texture of reports
- Provide training to all parties (incl. stakeholder)
- Finally, reporting is not just a contractual obligation. It is about the 5 Ts: 'Trust, Truth, Tolerance, Thoughtfulness and not going over the Top'.



Challenges for the future?

" The observer and the observed cannot be independent.

The act of observing disturbs the system' Niels Bohr.

- The act of reporting is an observation upon the project
- The reporting disturbs the project resulting in:
 - 99% syndrome, or 'prisoner's dilemma', or 'is not me gov'
- We have to review reporting and develop the processes, technologies, systems, and behaviours, which will enable us to move away from the above.
- We need more information about information (Prof. C.Davidson)



Closing

"... to understand the actual we must contemplate the possible" Dawkins R. (*'The extended phenotype'* p.2)

Thank you

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