Systems Thinking
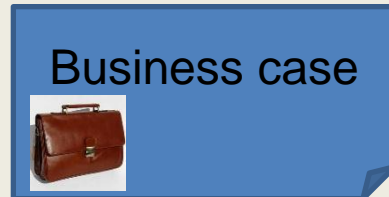
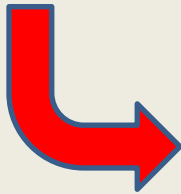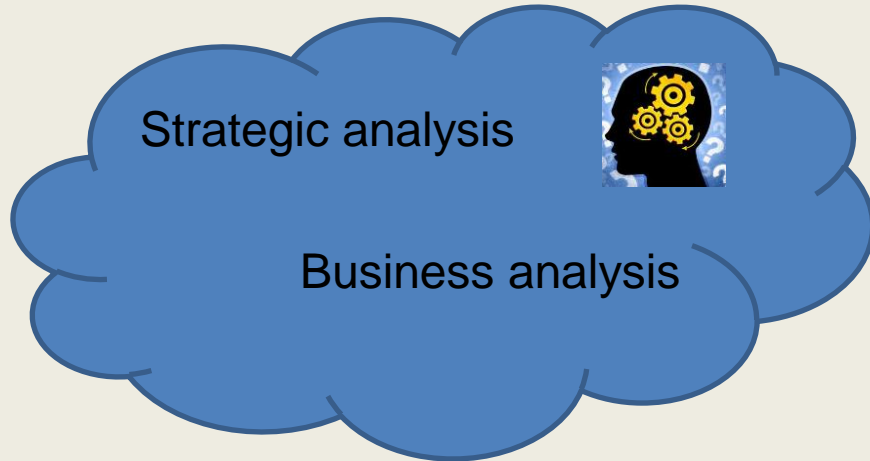## Paul Turner

Minsk 25th May 2012

The breadth of Business Analysis

Strategic analysis

Business analysis

Business case

Requirements engineering

Solution development

Analyst 2012 Days

The breadth of Business Analysis

Strategic analysis
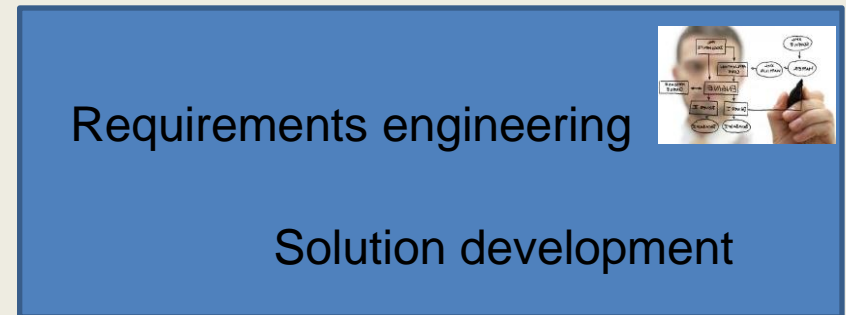
Business analysis
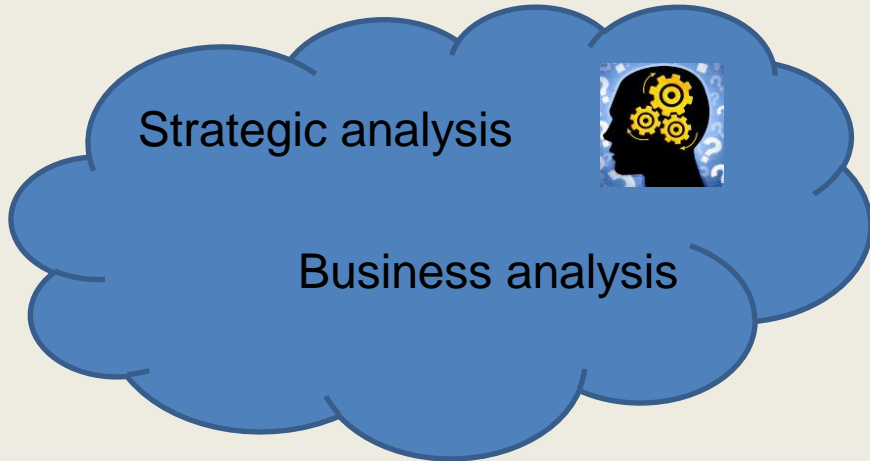
Business Architecture

Systems Thinking

Business case

Systems Modelling

Requirements engineering

Solution development
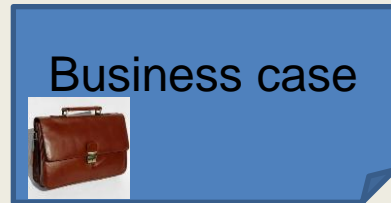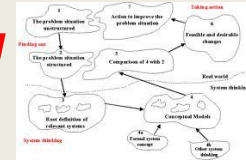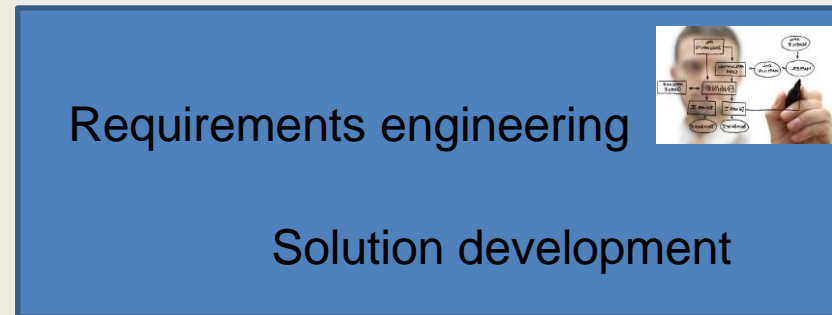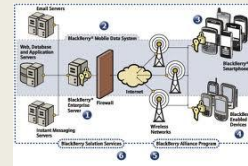
Agile development

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Systematic approach v systems thinking

Systematic approach

Divide each difficulty into as many parts as is feasible and necessary to resolve it.

Rene Descartes

Systems thinking (systemic)

A discipline for seeing wholes.

Peter Senge

Systems thinking

Inputs

Business system

Outputs

Feedback

Systems thinking

Inputs

Business system

Outputs
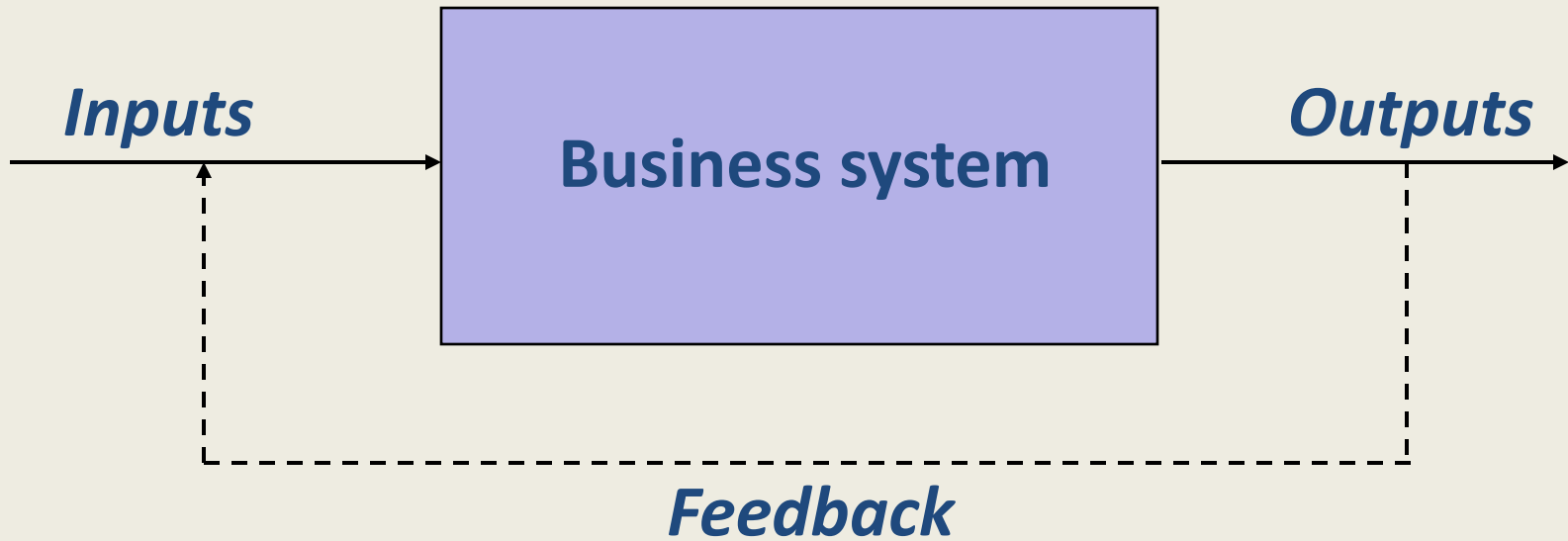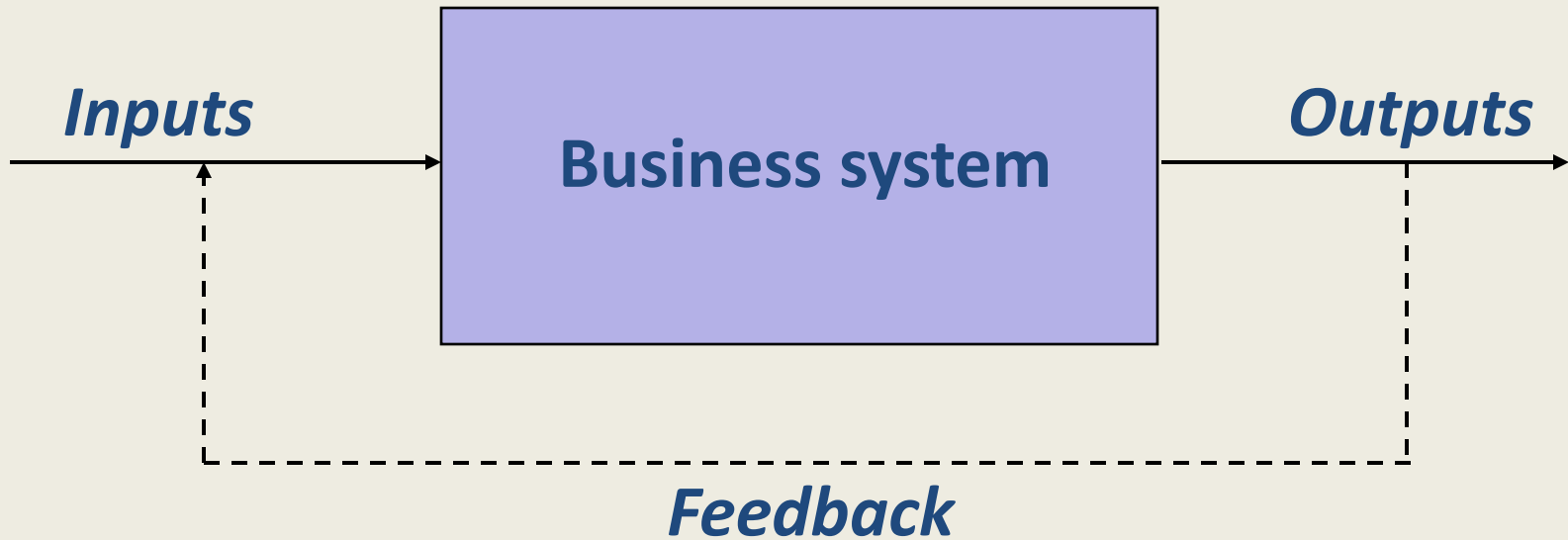
Feedback

Systems have feedback loops and the system must react to this feedback

Systems thinking

Inputs → → **Outputs**

Feedback

Analyst 2012 Days

Systems thinking

Inputs

Outputs

Feedback
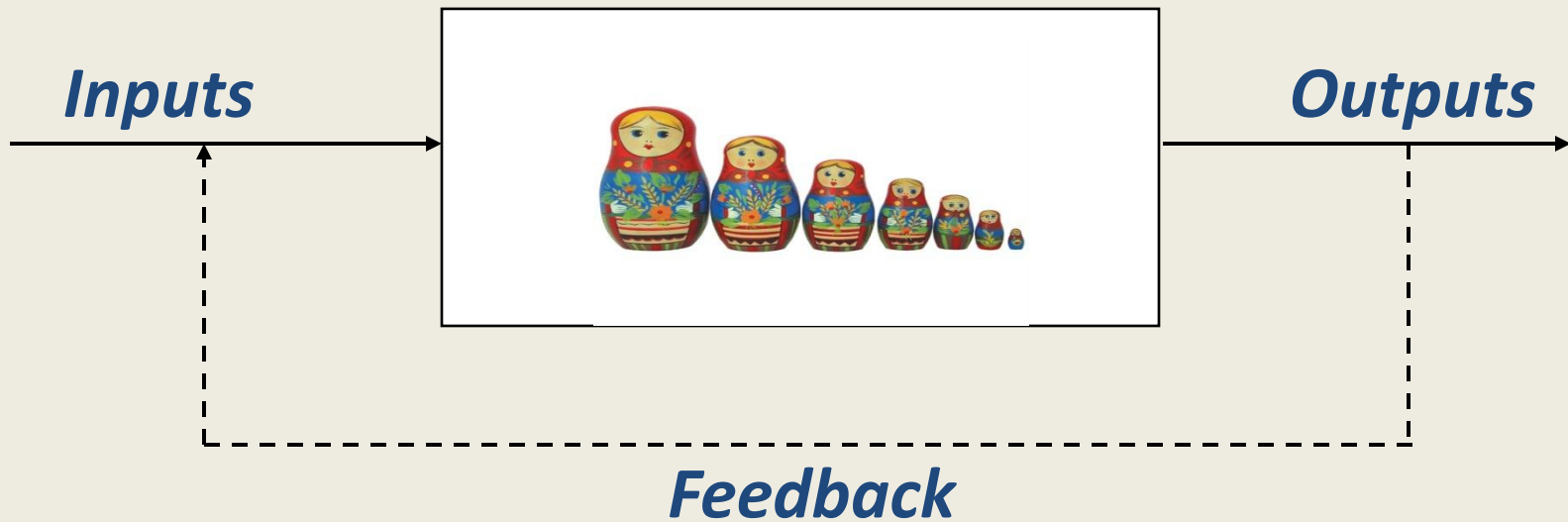
Emergent properties of systems

Characteristics that emerge from the

system as a whole rather than just by

adding up the characteristics of the parts.

Systems ➕ Interactions ＝ Emergent properties

Analyst 2012 Days
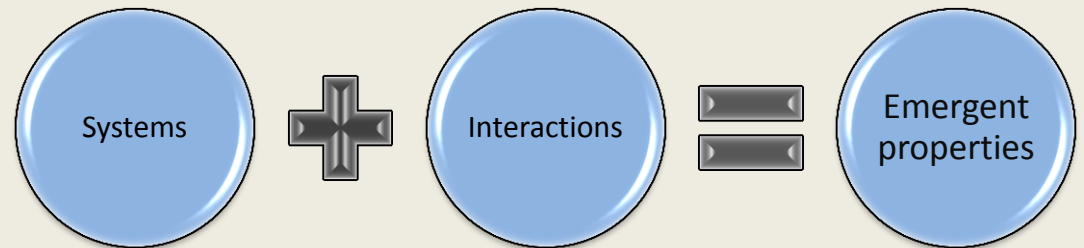
POPIT™ – taking a holistic approach

A holistic approach to understanding business systems

Avoid silo thinking

Organisation

Information & Technology

People

Processes

Analyst Days 2012
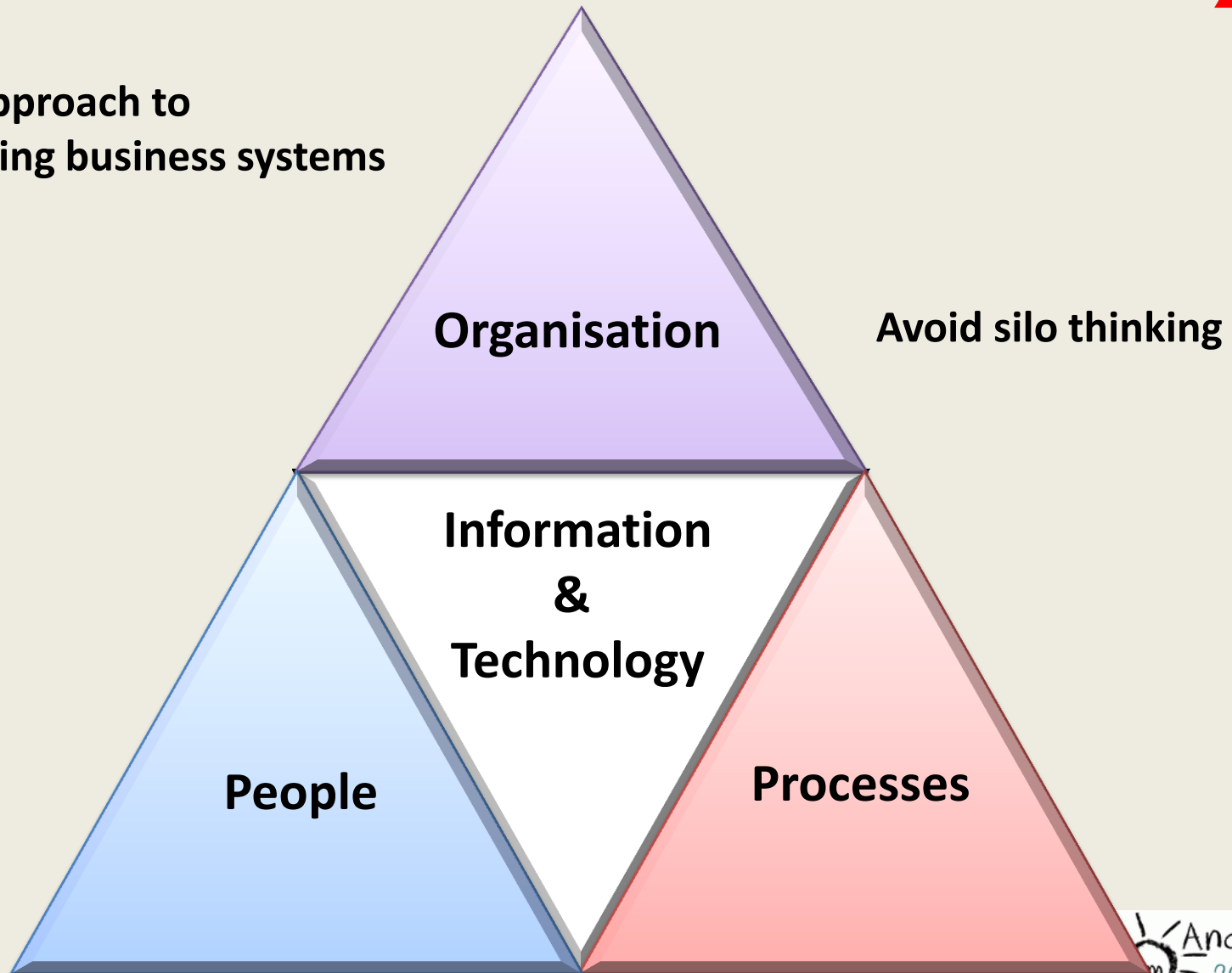
Can you see the whole picture?
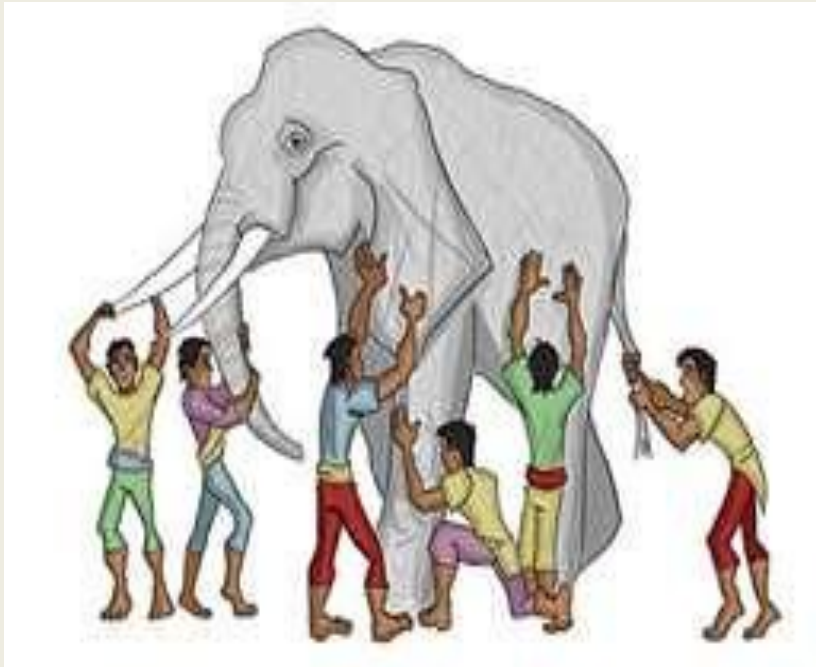
The story of the six blind men

Can you see the whole picture?

The story of the six blind men

Or is it seven?

Systemic change
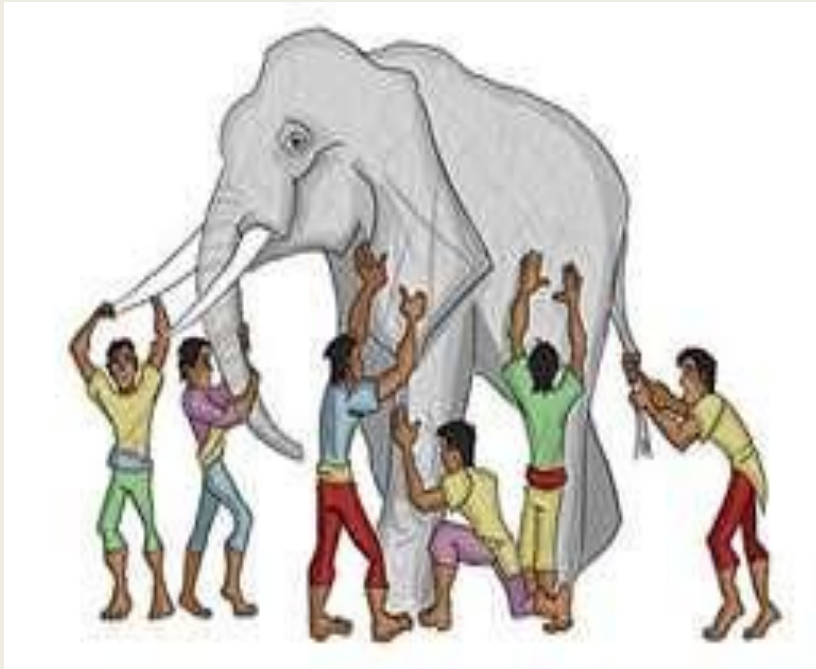

Systemic change is one where
the impact of any change is considered
in respect of the whole ,and the
relationships between the individual
parts to one another

See the bigger picture

Cause and effect
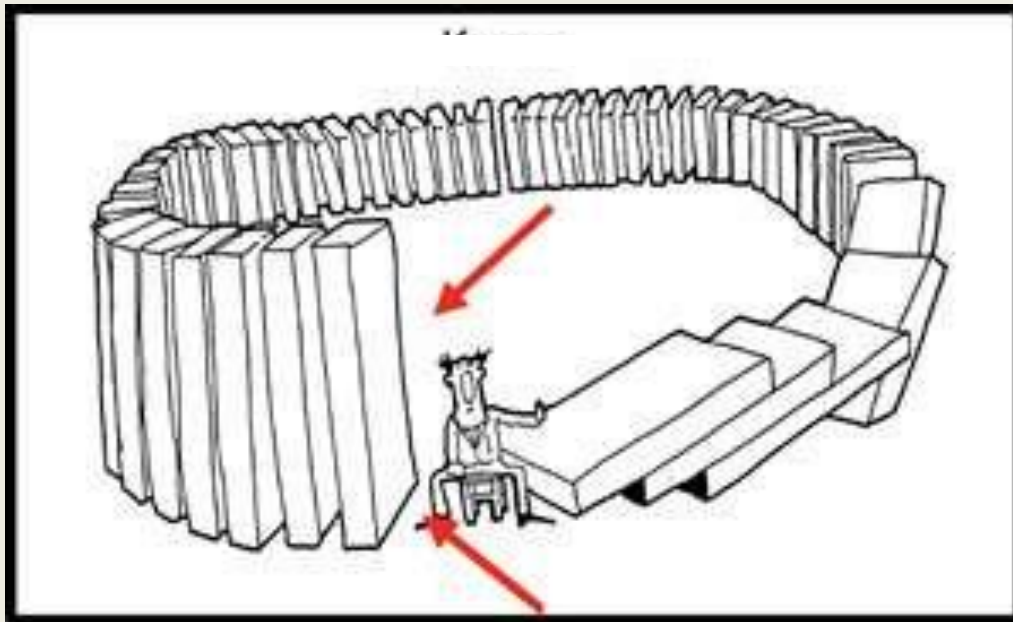
The solution to one problem may cause another bigger Problem

We may act to produce short term benefits leading to long term costs

Analyst
2012
Days

The basic disease of the hierarchy

From

Control

Management   Organisation

To

Vision   Values

Mental Models

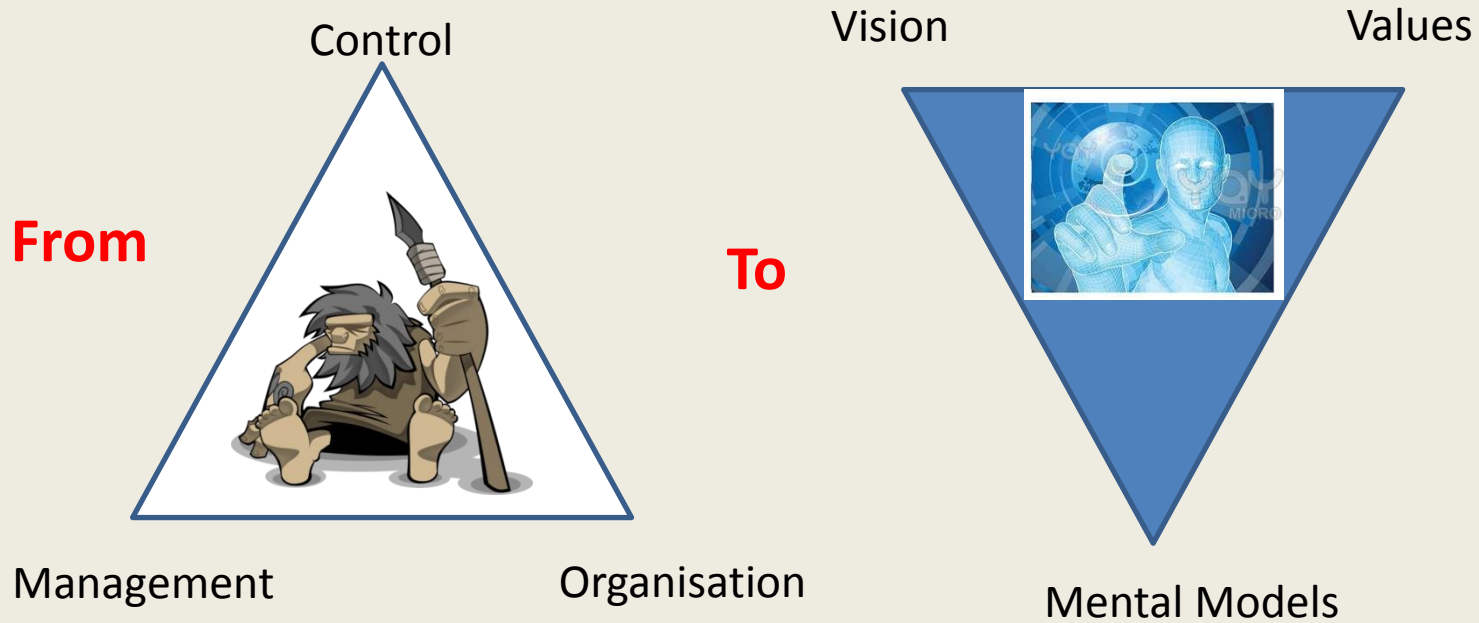# The customer viewpoint...

The organisation

- Systems thinking
- Customer focus

The customers

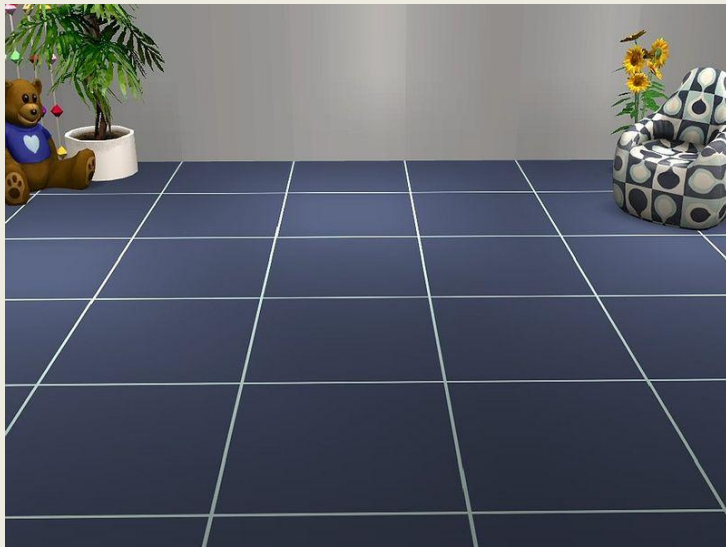- Needs
- Expectations

High level vision or detailed inspection

We need to get a balance between a long term vision of a possible future . . . .

. . . . . and the reality of the detail of the current situation.

Clarity of Vision

"In every block of marble I see a statue as plain as though it stood before me, shaped and perfect in attitude and action. I have only to hew away the rough walls that imprison the lovely apparition to reveal it to the other eyes as mine see it."

Michelangelo

Mental Model

Systems thinking without mental models is like flying without navigation

It involves:

- Holistic thinking

- Backward thinking

Simplicity and completeness of the solution

"Things should be done as simple as possible – but no simpler"
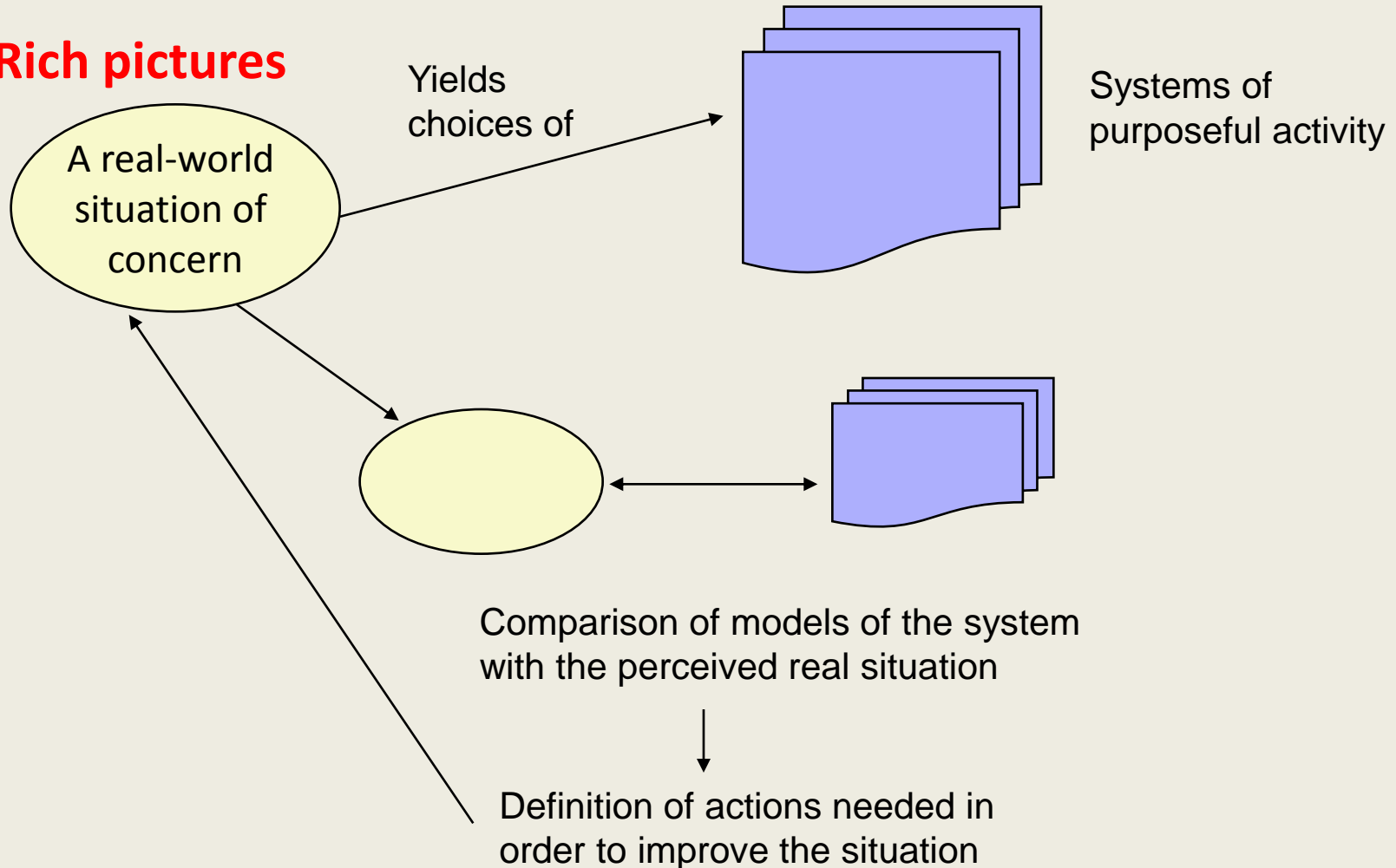
Albert Einstein

Think outside the box.
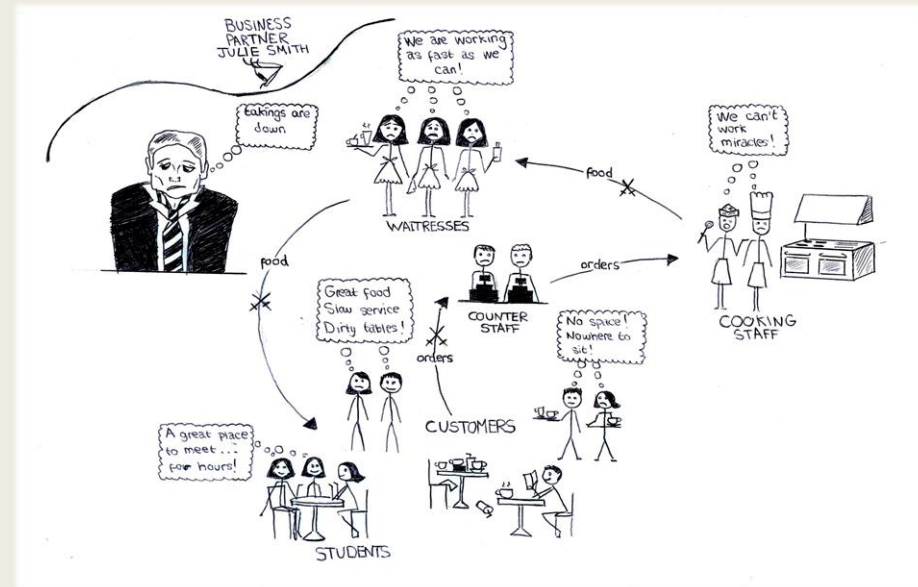What box?

Soft Systems Methodology

Rich pictures

A real-world situation of concern

Yields choices of

Systems of purposeful activity

Comparison of models of the system with the perceived real situation

Definition of actions needed in order to improve the situation

Rich Pictures

A picture is worth a thousand words

Soft Systems approach

A real-world situation of concern

Business perspectives and values

Systems of purposeful activity

Comparison of models of the system with the perceived real situation

Definition of actions needed in order to improve the situation

Business Perspectives and values

You're right from your side and I'm right from mine

Bob Dylan

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2012
Days

Soft Systems approach

Rich pictures

A real-world situation of concern

Business perspectives and values

Systems of purposeful activity

Comparison of models of the system with the perceived real situation

Definition of actions needed in order to improve the situation

Conceptual Modelling and Gap Analysis

Analyst 2012 Days
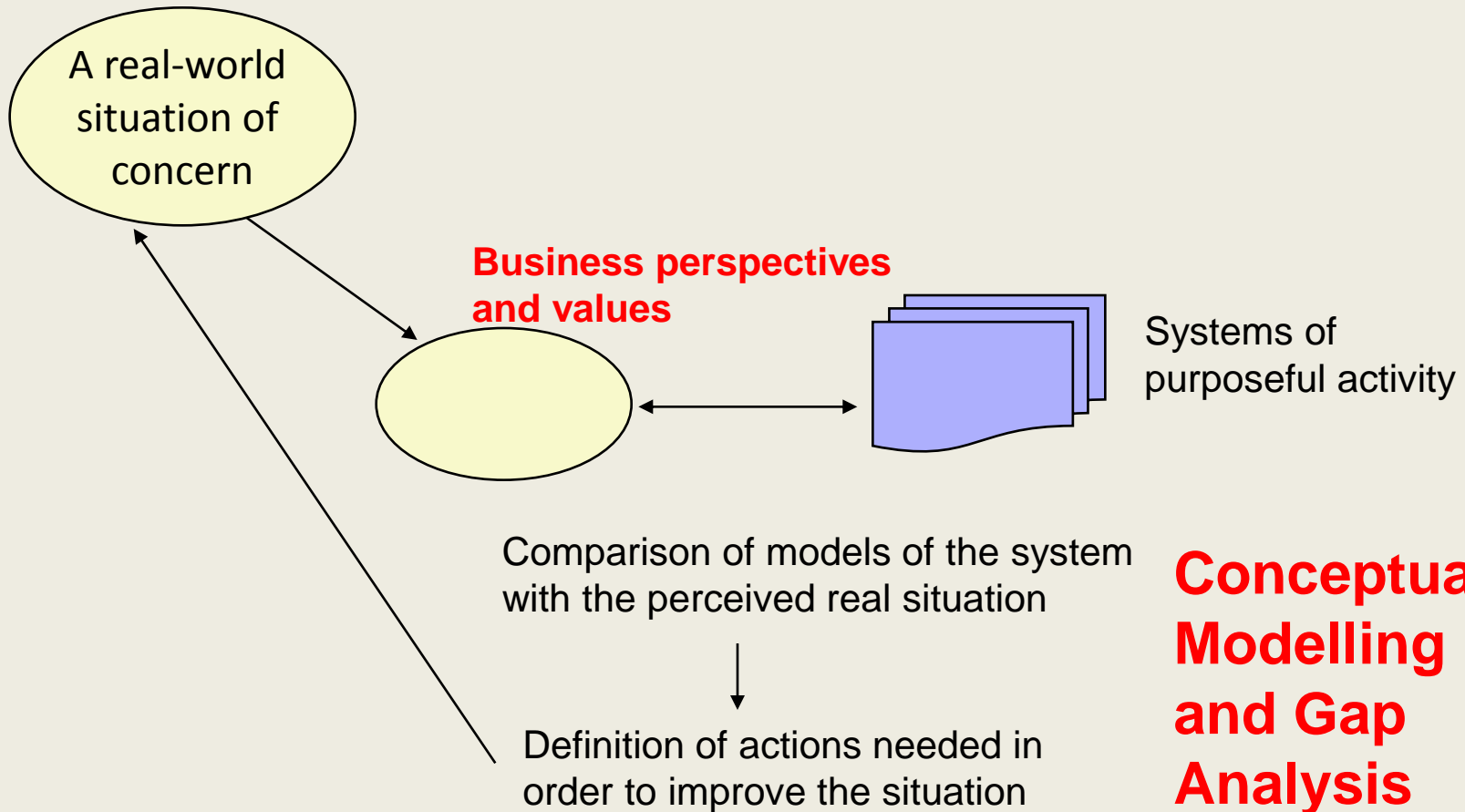
Conceptual Modelling and Gap Analysis

Where are we now?

Conceptual Modelling and Gap Analysis

Where do we want to be?

Conceptual Modelling and Gap Analysis

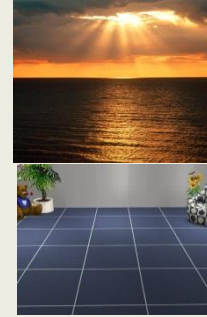How are we going to get there?

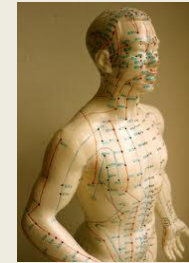How will we know we have arrived?

Systems thinking - summary

Clarity of vision

Emergent properties

Disease of the hierarchy

Levels of vision

Simplicity and completeness

Systemic change

Properties of a system
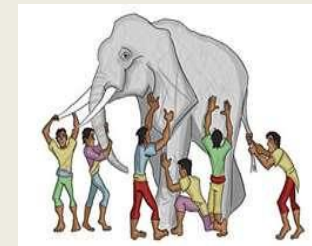
Gap Analysis
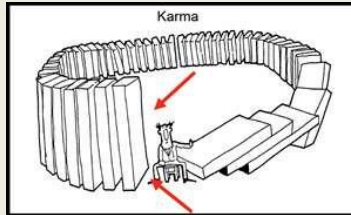
Cause and effect

Perspectives and values
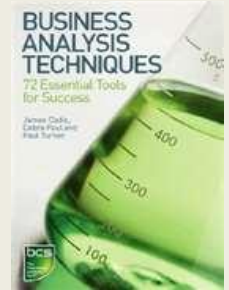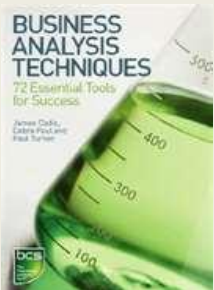
Mental Models

Rich Pictures

Whole picture

Systems Thinking

Paul Turner

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