

# Real Life IT

John Beckford  
Loughborough University, 28<sup>th</sup> April 2009

**All the right notes,  
not necessarily in the right order!  
Eric Morecombe**

## Who am I?

- PhD in Management Science (Hull)
- Visiting Professor, Dept. Of Information Science
- Fellow of the Cybernetics Society
- Member of the Institute of Management Services
- Fellow of the Royal Society of Arts
- Author of 'Quality' (Routledge, 3rd Edition, 2010)
- 60 + Papers and Articles, numerous 'talks'
- Company Director

## Why do I do this?

- The Passion
  - Deeply dysfunctional organisations
  - At the limits of established thinking
  - Improvement will only arise from innovation
  - Most money spent on IT is wasted!

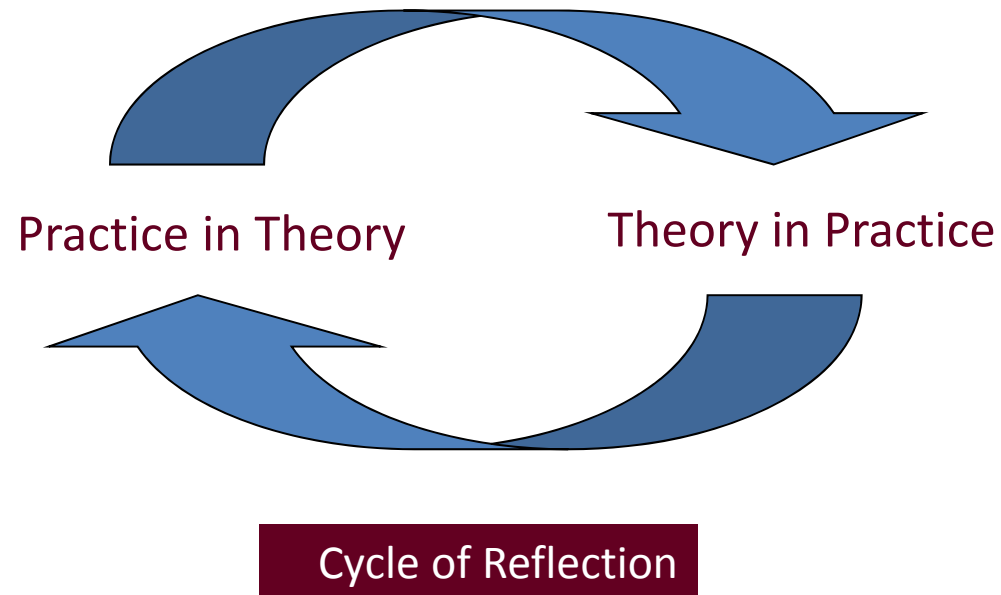
# How did I get here?

- Career Pathway
  - Banker
  - Internal consultant
    - Organisational and Process Analysis
    - Management problem solving
  - Research – PhD
    - Management Science
    - Managerial Cybernetics
  - Research based consultancy

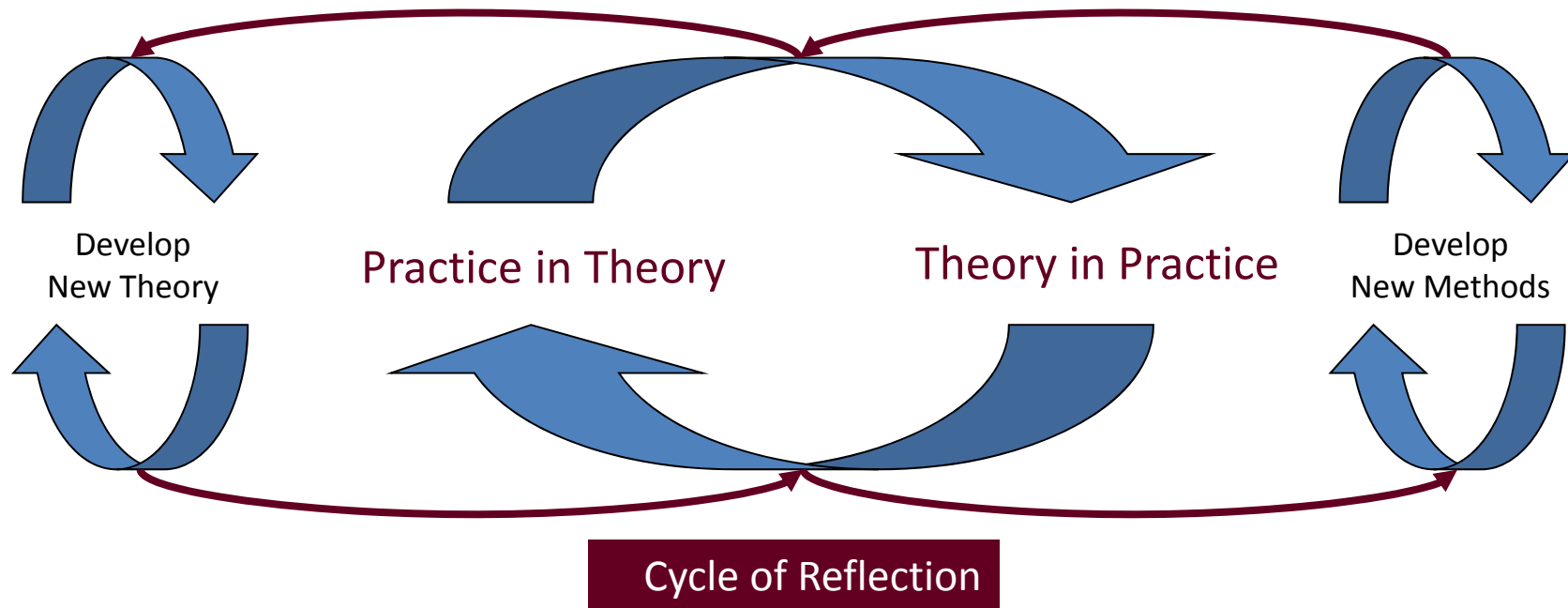
## Why is it interesting?

- The Challenge
  - Academics see the Consultant
  - Clients see the Academic
- My Approach
  - Treat the world as a laboratory
  - Demonstrate the power of ‘thinking’
    - Intractable problems
  - Create a virtuous (learning) cycle

# Virtuous Learning Cycle



# Virtuous Learning Cycle





# Who do I do it for?

- GNER, Arena, Hoverspeed,
  - organisational viability
- Northern Rail, National Express
  - business information for business transformation
- Astra Zeneca, RBS
  - research project performance management
- Parcelforce, Praska Teplarenska, Aviance
  - business performance management
- A H Marks, Innospec, HSBC, SAP
  - chemical research, fuel additive research, identifying high performers, product development
- InHealth, Aylesford
  - business performance modelling
- The Congregation of the Sisters of Nazareth
  - global business planning, IT strategy

## The Challenges?

- Conventional approaches are failing
  - ‘More of the same’ is not working!
  - Look at the economy!
- Increasing demand for ‘new’ thinking
  - Greater willingness to engage
  - Reputation, experience, demonstrable success
  - Sustainability (viability) agenda
- Finding the scientific skills and knowledge
- The opportunities are out there!

- Achieving claimed benefits
- Delivering value for money
- Dealing with complexity
- Defeating the sceptics
- Demonstrating the value of information

## If these statements are true:

- 80% of SAP clients disappointed in:
  - Benefits attained
  - Measurability of benefits
  - User competency
- 90% of IT projects do not return real benefit
- 40% fail completely
- McKinsey
  - two thirds of CIOs admit that budgets don't have to be defended
- Morgan Stanley
  - between 2000 and 2002 companies threw away over \$130 billion of their IT capital expenditure
- HBR
  - 'IT doesn't matter'

**If these statements  
are true:**

**then somebody somewhere  
MUST be doing something wrong**

**or, maybe, we are valuing  
and focusing on the wrong things!**

# IT/IS conventions

- Any organisation commissioning an IT/IS project will typically
  - measure the cost of:
    - hardware, software, configuration, customisation, training, business disruption
  - capitalise it all
  - measure the payback through:
    - reduced headcount, increased availability, better compliance, improved reporting, reduced 'clicks', improved appearance, better toys
  - hold nobody fully accountable for the difference
  - believe that IT/IS is a 'necessary evil' and seek to minimise the costs it imposes on the organisation

## IT/IS conventions

- Many people might be happier with:
  - The latest generation of software
  - A blackberry
  - A(nother) mobile phone
  - A faster laptop
  - A wireless lan
  - A 3g card
  - A colour printer
  - A flat screen
  - A big screen
  - Even a big, flat screen
- But
  - How much more productive, efficient, effective will they be?
  - How much better will the 'customer' be served?
  - How much better will they be able to do their jobs?

**Not VERY!**

## IT/IS conventions

- Often all we get is a faster, more efficient way of making the same mistakes
- These mistakes individually cost us less to make and we can make more of them more rapidly
- The total cost of all the errors is greater than it was before!



# INFORMATION

is more important

than TECHNOLOGY

# IT/IS unconvension

- The truth seems to be:
  - The COSTS and PAYBACK are all measured in terms of the software, the toys and the people
  - The BENEFITS are all in the information!
- But we don't measure the VALUE of the information!

## So, what **SHOULD** we do?

Understand the information  
needed to manage the business

Business Effectiveness

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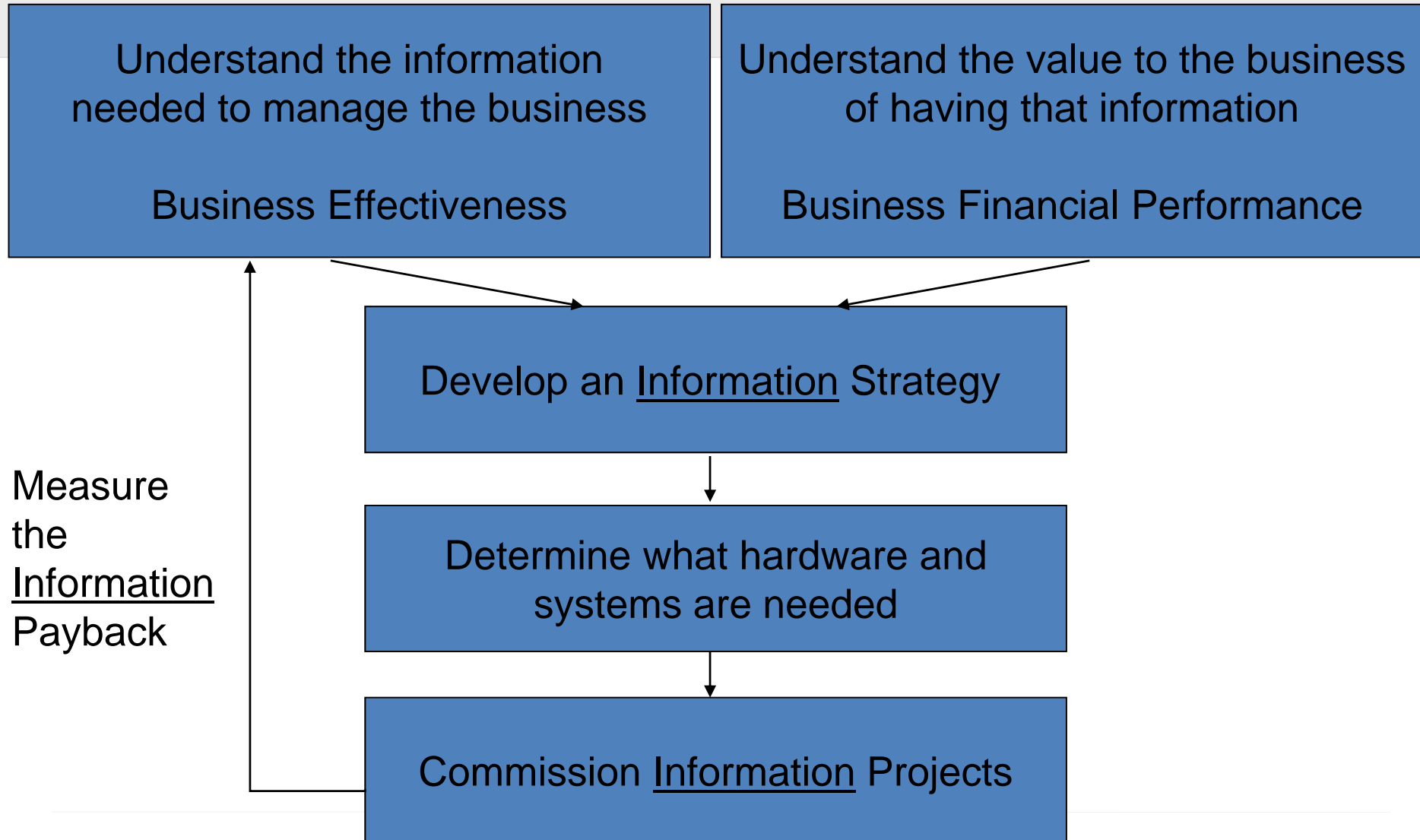
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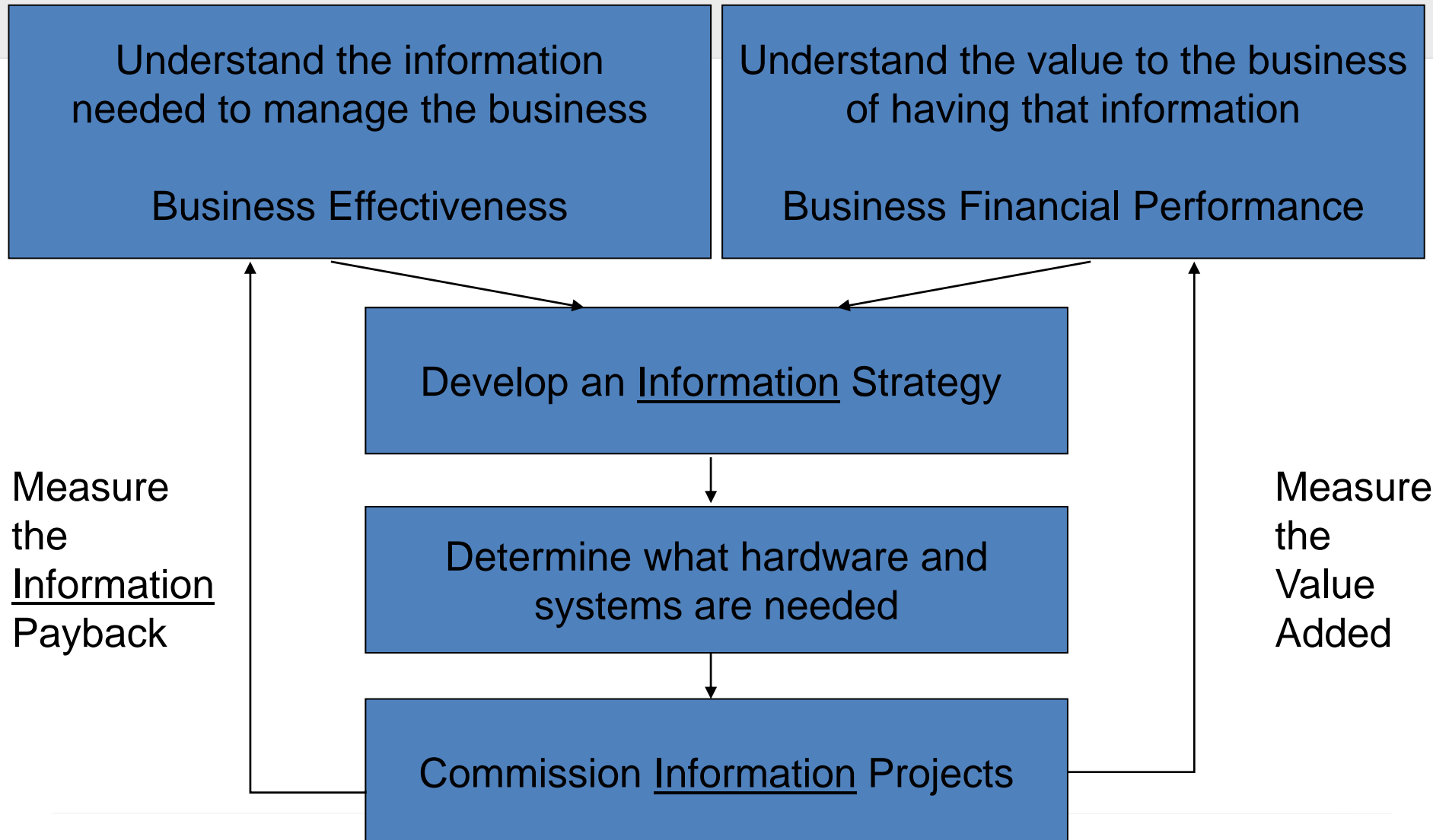
Commission Information Projects

## So, what SHOULD we do?



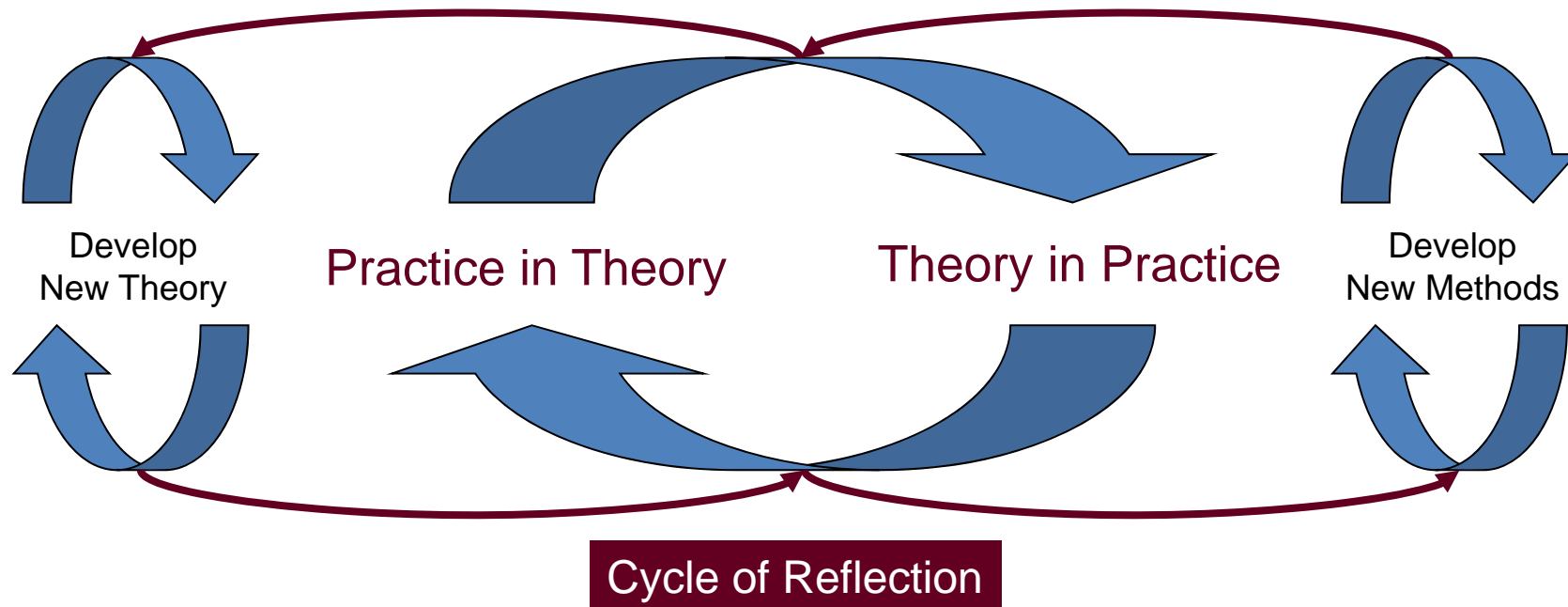


## So, what SHOULD we do?



# How do we do that?

Continuous adaptation!



## Payback: Information Projects

- Instead of measuring the COST of information provision, measure the VALUE of information provided

# Payback: Information Projects

- Instead of measuring the COST of information provision, measure the VALUE of information provided
- How can that be expressed:
  - Improved response times to customers improve Customer Service
  - New opportunities recognised and responded to more effectively
  - Staff make better decisions
    - Spend LESS time collating data, more time analysing and using information
    - More ‘informed’ decisions, made more quickly
  - Reduce time to market
  - Adverse external events responded to more rapidly reducing losses
  - Positive external events are responded to more rapidly increasing revenues
- Value expressed in terms of the drivers of YOUR business

# Payback: Information Projects

- And yes:
  - Total numbers employed can fall
  - The systems can be easier to use
  - There can be less duplication
  - Systems can be more up to date and more reliable
  
- ALL the conventional benefits can be realised as well!

# The Value of Information?

- What IS the Value of 'I'?
  - The ability to achieve sustainable improvement in
    - CUSTOMER SERVICE
    - COMPETITIVE EDGE
    - COSTS
    - REVENUE
- What do I need to know?
  - Information Value
    - What is a happy customer worth?
    - What is the value of time in the market?
    - What is the cost of a failure or error?
    - How many more might I produce and sell?

# The Value of Information?

- How do I calculate Information Value
  - What is a happy customer worth?
    - Unit net value \* number of repeat customers \* number of purchase cycles
  - What is the value of time in the market?
    - Unit net value \* volume per day \* number of days advantage over competitors
  - What is the cost of a failure or error?
    - Cost per occurrence \* frequency \* days delay in the receipt of the information \* days required to design and implement a solution
  - How much more might I produce and sell?
    - Current capacity less Current volume \* unit net value \* number of days capacity not utilised
- Examples
  - Happy Customers, Logistics, Projects, Processes

## Example 1: Happy Customers

- A registered social landlord was seeking to improve cost-effectiveness of operation
- Customer service costs were rising, income restricted by regulation
- A step change was needed in cost of service delivery to close the gap
- It was recognised that the principal activity of the organisation was data processing and THAT was mainly carried out by people
- A system – ‘The Data Hut’ was devised to automate the delivery and management of service activities
- The system, built as an integration layer to existing data systems, enabled BOTH a sustainable reduction in headcount (around 100 people) AND a sustainable improvement in service delivery
- Costs £400k, deliverable benefit year one £1m
- The Information Value: £600k per annum and rising



## Example 2: Logistics

- A well known parcel distribution business was struggling to balance activity volume and staffing levels
- There was significant variance and unpredictability in daily volumes
- Its Information System led to substantial reporting delays
- Custom and practice informed all management decisions
- A daily reporting tool was constructed which:
  - analysed data in near real time
  - reported performance by individual, line, unit, shift
  - calculated the net value of change in staffing levels
- The information generated savings in staff cost of £15000 per day
  - The ANNUAL saving was £4.68m
  - The cost of the information provision was £120k
- The information value (so far!)
  - $£4.68m * 6 \text{ (years)} - £120k = £29m$

## Example 3: Projects

- A research organisation was seeking to optimise project life cycle to reduce time to market for new therapeutics
- The typical life cycle is 19 years from project inception to generic competition - entry to the market is typically at year 7
- The global market for each new therapeutic is £ billions
- A project simulation tool was devised:
  - simple modification of project plans in real time
  - assumptions, dependencies, resource allocations, activity durations
- The time to produce a revised plan was reduced from one month to one hour
- Project deliverables were recognised as deliverable up to one year earlier
- The Value of Information:
  - 12 months additional sales before generic competition
  - For EVERY project!

## Example 4: Processes

- A manufacturer was fighting in a tough business to increase output volume
- Every extra ton of output was worth £350 in the market
- Daily output was erratic and unpredictable
- The annual budget (300,000 tons) was consistently missed
- A production simulator was built which analysed the capacity of the whole plant and identified potential volumes for each element of the plant
- The capacities were discussed with the Production Team
- A plan was devised to systematically improve output and use the simulator to monitor volume
- Within 12 months the plant was producing in excess of 400,000 tons
- The Information Value:
  - $100,000 \text{ tons} * £350 * 3 \text{ (years)} = £105\text{m}$  additional revenue

## Question:

- Consider the state of Information in the University:
  - What is good? What is bad?
  - Where could better information perhaps add more value?
  - Why do YOU think it is as it is?

# Project Management

- Why do Project Management?
- What tools do we use?
- How is value (RoI) on investment in PM measured?
- What are the obstacles to transparency?
- What might be done differently?

# Why do Project Management?

- Rationale for Project Management
  - Deliver Project Objectives
    - Faster, cleaner, cheaper, more effective – time, cost, quality
  - Illusion of Control
    - Reporting (RAG status), Administrative, Regulatory, Political
  - ‘Park’ an otherwise surplus manager
    - Corner office, big title, minimal expectations!

## What tools do we use?

- Tools and Methods
  - Executive Sponsors £
  - Steering Groups £
  - Stakeholder Engagement £
  - Project and Programme Office(s) £
  - Software Solutions £
  - Project Methodologies £
  - Project Management Training £
  - Professionally Qualified Staff £
- What do they all have in common?
  - They all represent ‘investment’ in project success!

## How do we measure RoI?

- Commonly

- We don't measure most of our 'investment'

- we treat it as a given
- or it is hidden

- Consider the list

- |                                   |        |         |
|-----------------------------------|--------|---------|
| • Executive Sponsors              |        | Hidden  |
| • Steering Groups                 | Hidden |         |
| • Stakeholder Engagement          | Hidden |         |
| • Project and Programme Office(s) |        | Given   |
| • Software Solutions              |        | Exposed |
| • Project Methodologies           |        | Hidden  |
| • Project Management Training     |        | Exposed |
| • Professionally Qualified Staff  |        | Given   |



## How do we measure RoI?

- Commonly
  - We don't measure most of our 'investment'
  - If we don't measure our investment we can't measure our return!
- Key learning point!
  - We need to be explicit about the true, full, costs of projects
  - We can then justify projects AND investment in Project Management against a rigorous evaluation
  - If the project cannot withstand its true costs we shouldn't be doing it!

## How do we measure RoI?

- What do we mean by Return on Investment?
  - Generally - the enhancement in financial performance obtained from the investment
  - Expressed as lower costs or higher revenue (or both!)
- Is that enough?
  - Customer Service, Engagement and Commitment £+
  - User uptake (software projects) £+
  - Behavioural change £+
  - Time to market £+
  - Increased business volumes, lower error rates £+
  - Organisational and Personal Learning £+

## Obstacles to transparency

- Difficulty
  - Non-financial value can be difficult to measure!
- Ignorance
  - Lack of method, lack of skill, lack of data
- Assumptions
  - Unquestioned ways of working, unchallenged costs
- Politics (the CEO's favourite project!)
  - There will ALWAYS be one of these
  - Managing bad news
- Lack of breadth of understanding
  - There is ALMOST no such thing as an IT project
  - There are many INFORMATION projects
  - The costs are in the hardware, software, consultancy
  - The benefits are in the Information – but we don't measure that!

## What might be done differently?

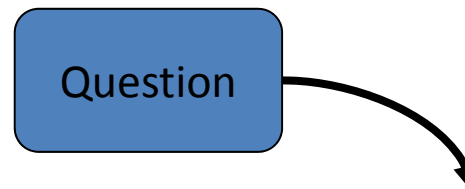
- Understand that:
  - NO project has an automatic right to exist!
  - SOME projects have no visible payback
- Develop a Project Planning/Business Case approach that:
  - is rigorous and transparent
  - addresses 'hard' issues
    - visible costs and benefits
  - exposes hidden costs and benefits
    - steering & stakeholder costs
    - behavioural benefits, learning
    - time to market, reduced errors, increased volumes
  - identifies 'political' aspects of the project
- Be brave!

# Measuring RoI for Project Management

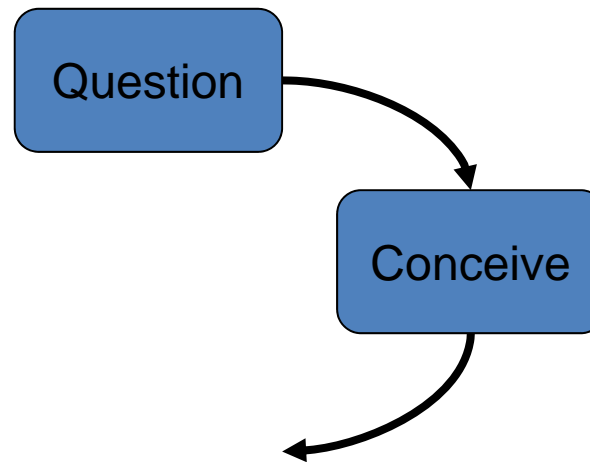
- The financial measures remain the same:
  - $\text{£ Cost} / \text{£ Benefit} * 100/1 = \%RoI!$
  - That's not going to change – it's how the sums work!
- What is different?
  - The costs and benefits address the wider business implications
  - Non-financial benefits and costs are understood
  - The basis of measurement is shifted from 'pure' financial measures to a range of quantitative AND qualitative measures
  - There is greater understanding and appreciation of the project itself – and the consequence of THAT is greater commitment!

# Information for Decision

- A Learning Cycle:

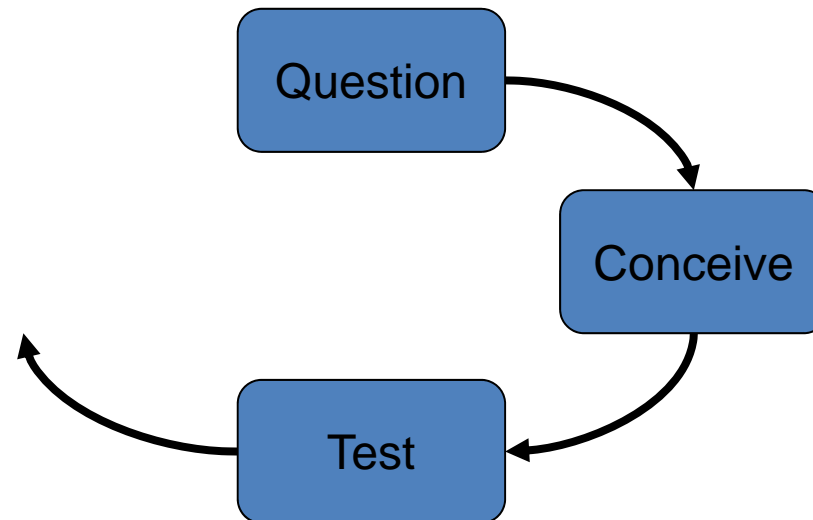


- A Learning Cycle:

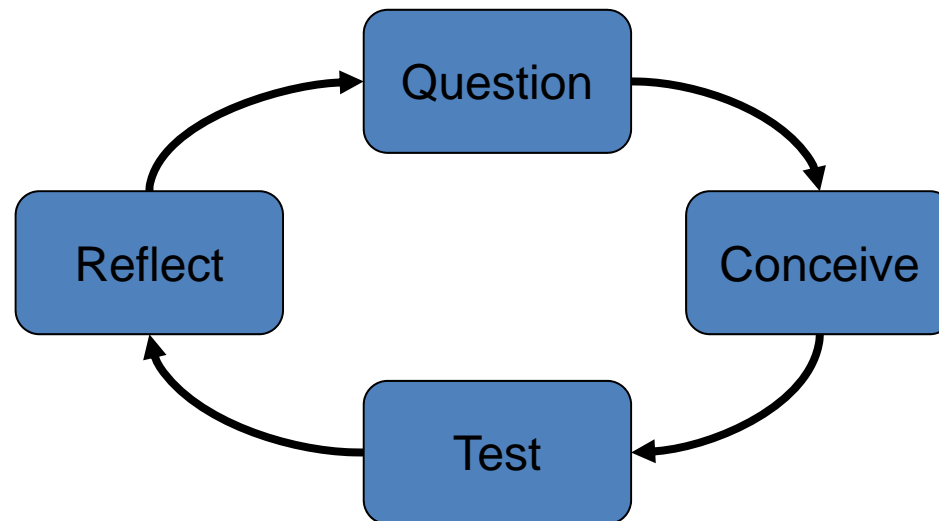




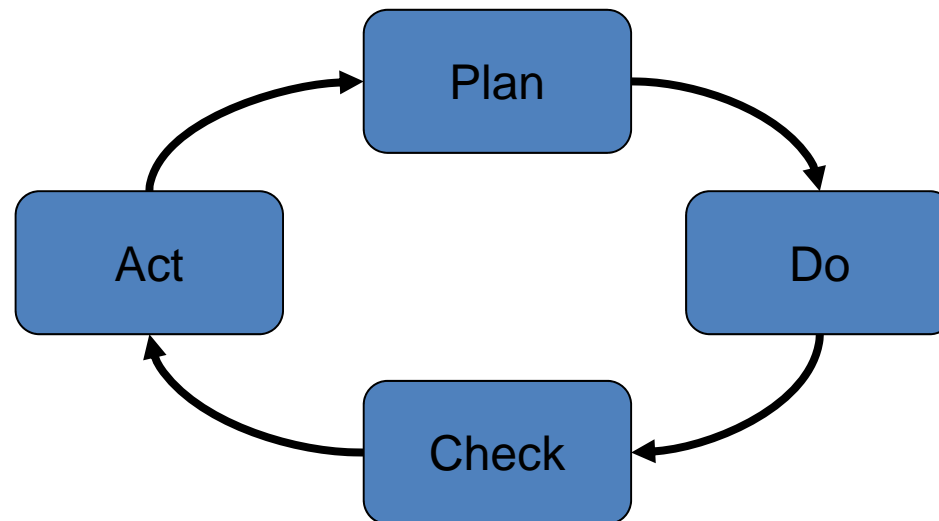
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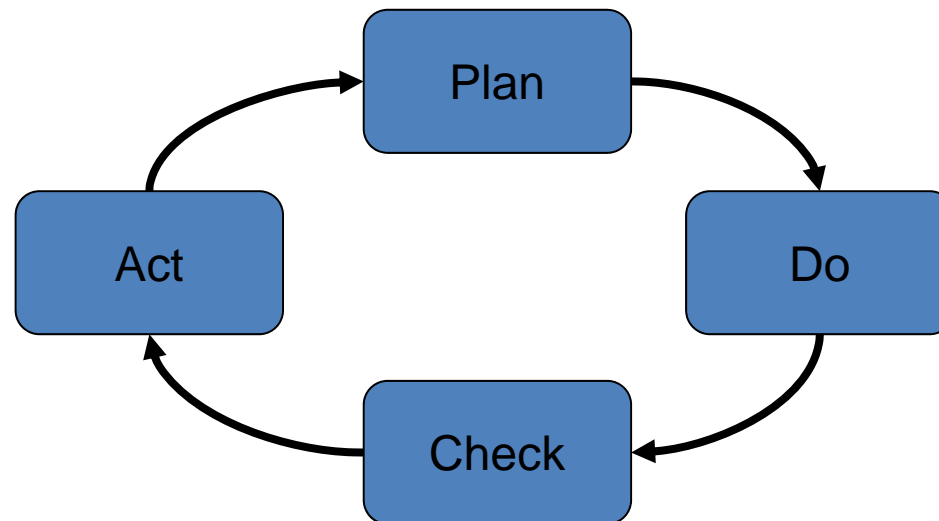
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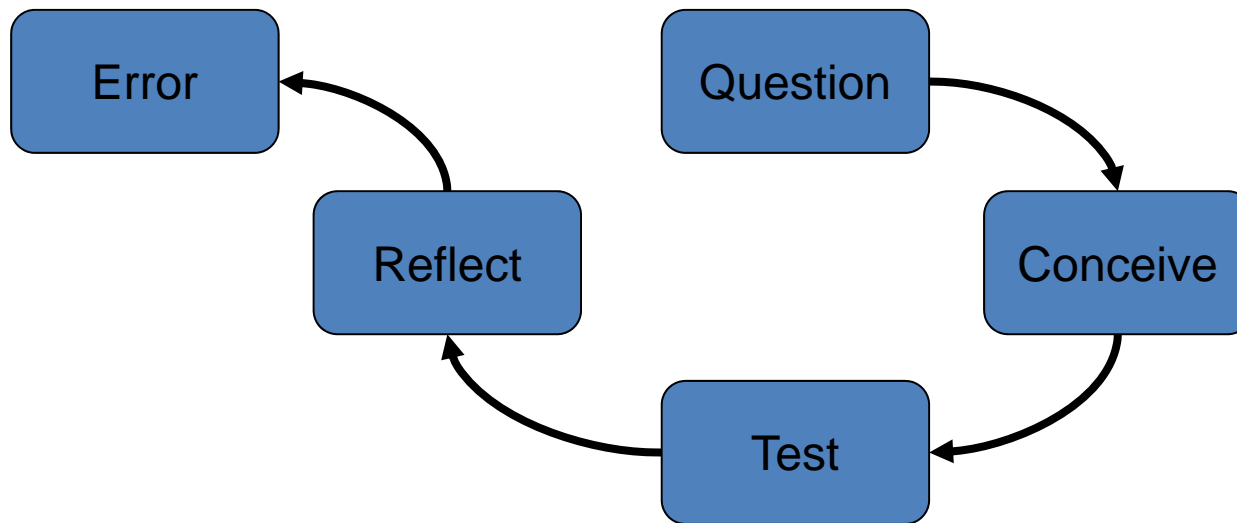


- What has changed is knowledge!

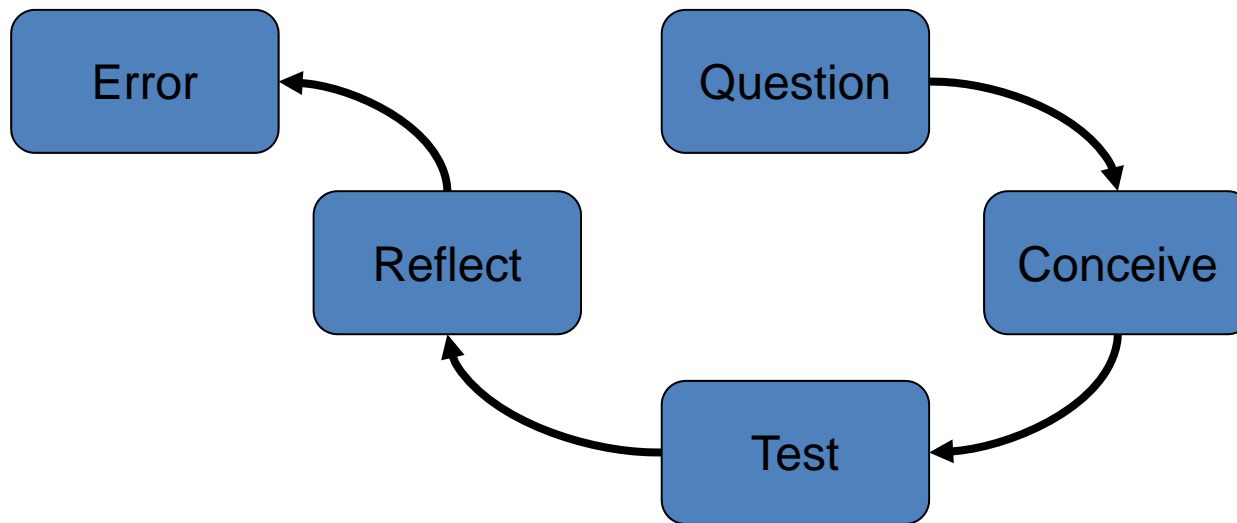
## Learning?

- What has changed is knowledge!
- New knowledge enables new decisions

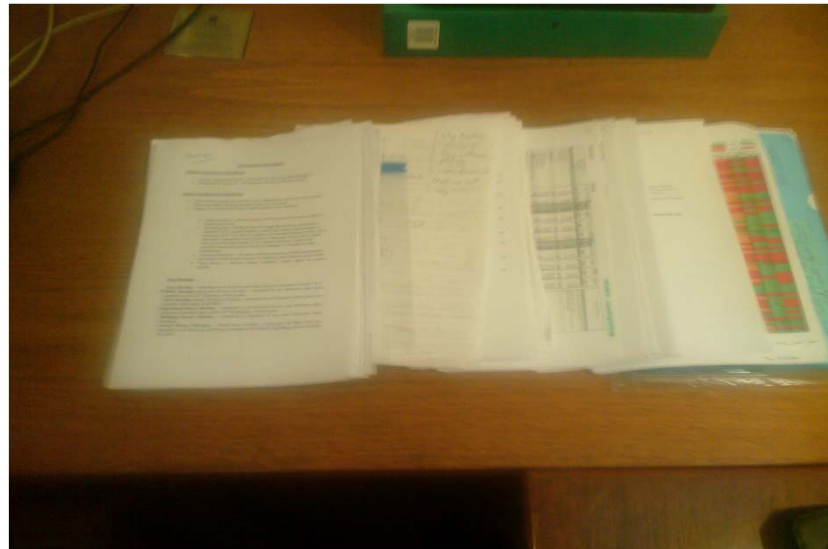
- Learning fails when “Information Loops” are left open



- Open loops (lack of closure) mean that nothing is decided – so nothing changes!



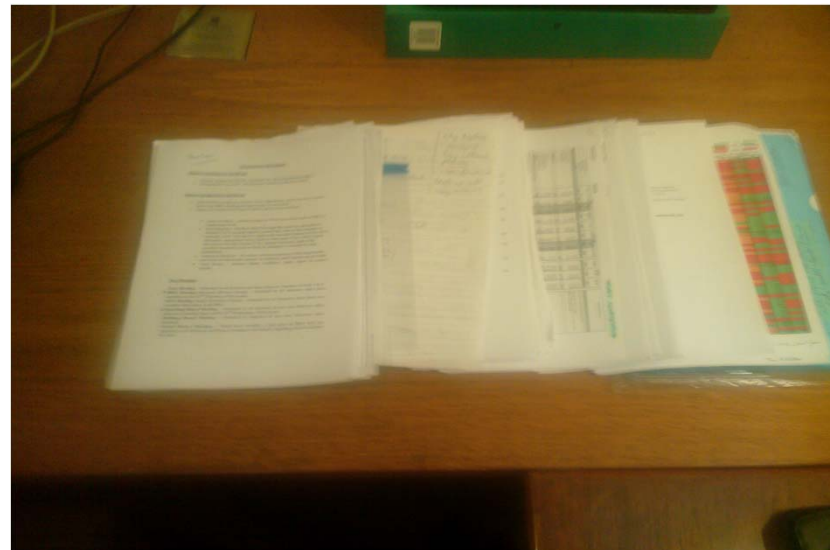
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- Typically by producing a report (or several!)





## Gathering and validating data

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One week's worth  
for one Director

- So, how do we carry out this ‘exchange of data’?
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The Month!



## Gathering and validating data

- So, how do we carry out this ‘exchange of data’?
- Typically by producing a report (or several!)
- Typically we are overwhelmed with data – but have little information!

“Reports and procedures should be kept to a minimum and only used when they save time and labour. They should be as simple as possible!”

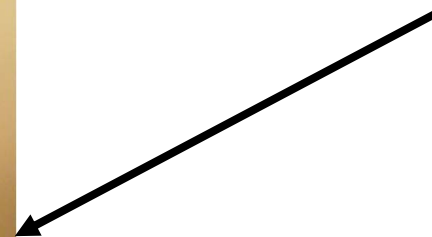
Peter Drucker, *The Practice of Management*, 1955

- “..... kept to a minimum.....”

- “..... kept to a minimum.....”



Hmmmmm!



- What is a report?
  - An explanation of why what was planned didn't happen
  - Written by someone who wasn't there
  - Addressing a question they didn't understand
  - Sent to a recipient who didn't ask the question
  - Presented to an audience that doesn't care
  - Asking for a decision that doesn't matter because its too late to affect the outcome of the next cycle

- The essence of communication may rest in having something to say!
  - A story to tell
  - A message to convey
  - A concern to share
  - A decision to get made

So, why are we so bad at it?

- The essence of communication may rest in having something to say!
- Why are we so bad at it?
  - We have too much data to assimilate adequately
  - We don't know what the message is
  - We are too concerned with 'what they want to hear'
  - We are not confident in our message
  - We have data, we NEED information
    - Information is aggregated data that has meaning
    - Meaning is relative - direct (internal) or contextual (external)



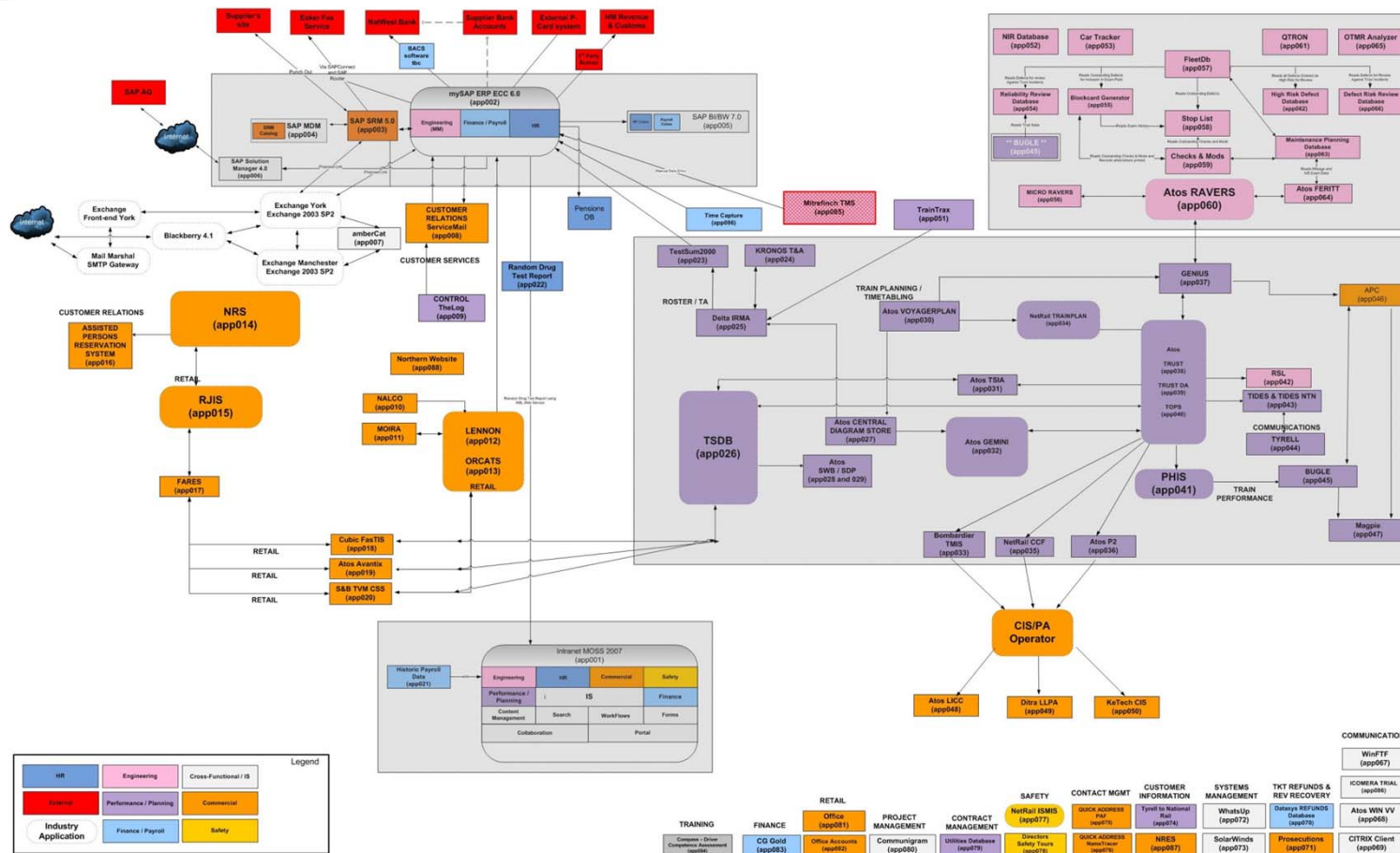
## Gathering and validating data

- The essence of communication may rest in having something to say!
- Why are we so bad at it?

If you think IT is the solution to your problems, then you don't understand IT and you don't understand your problem either!

Joseph Rowntree Reform Trust, March 2009

# Gathering and validating data



150k excel spreadsheets

5000 access databases



# Gathering and validating data

103 business systems

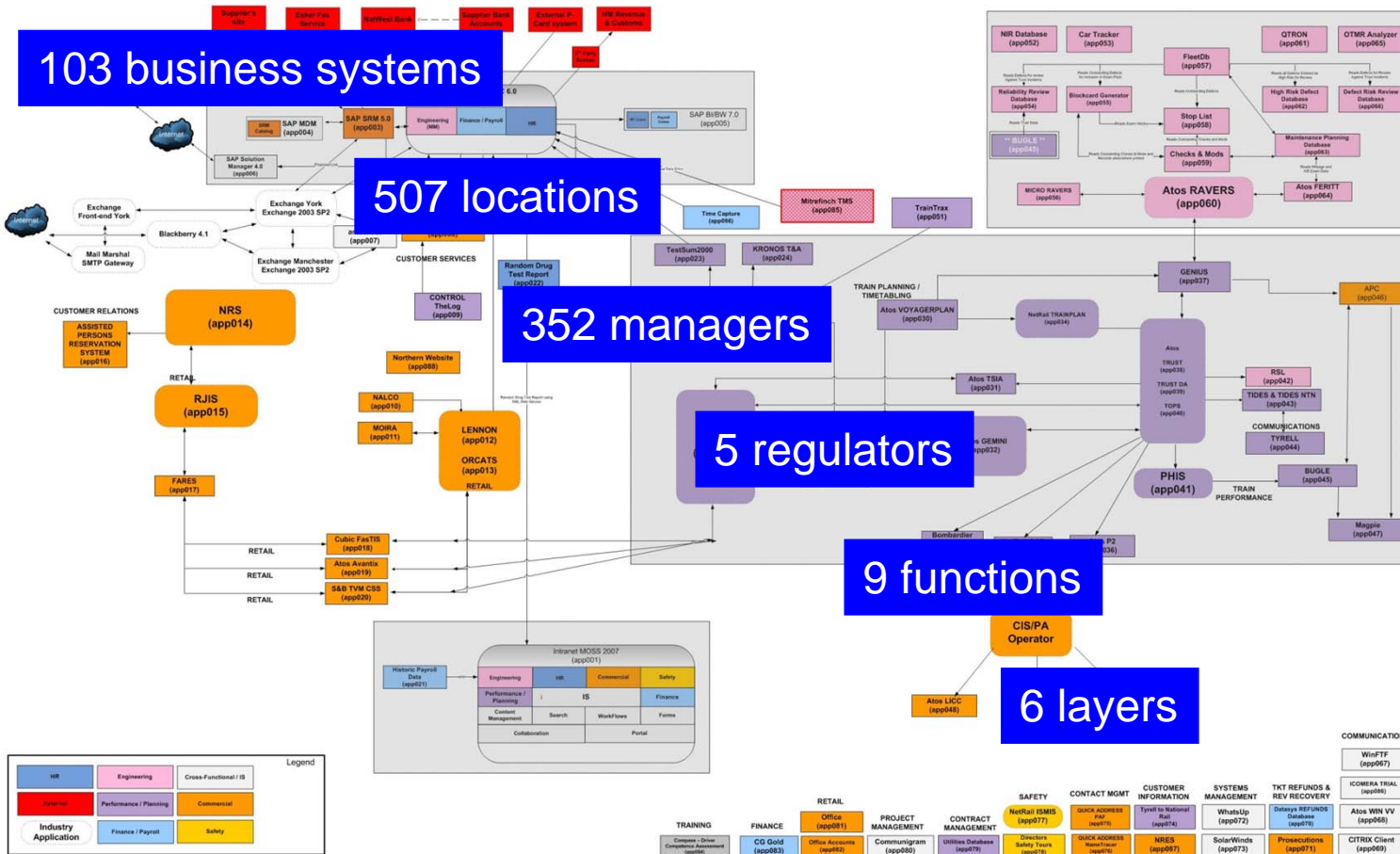
507 locations

352 managers

5 regulators

9 functions

6 layers



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5000 access databases

Board Meeting

103 business systems

Exec Group

Business Review Group

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Direct 1 to 1s

352 managers

Department Meetings

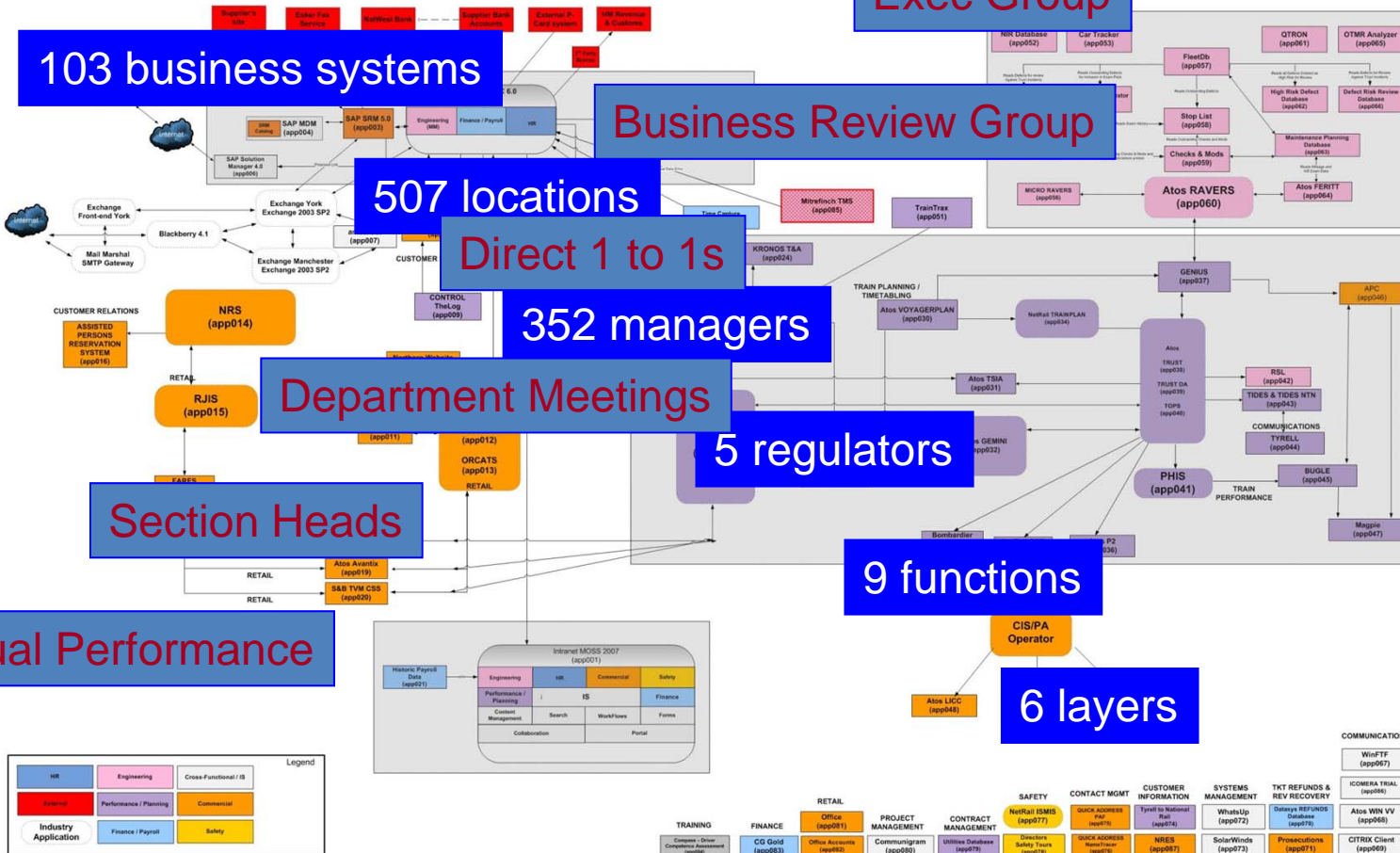
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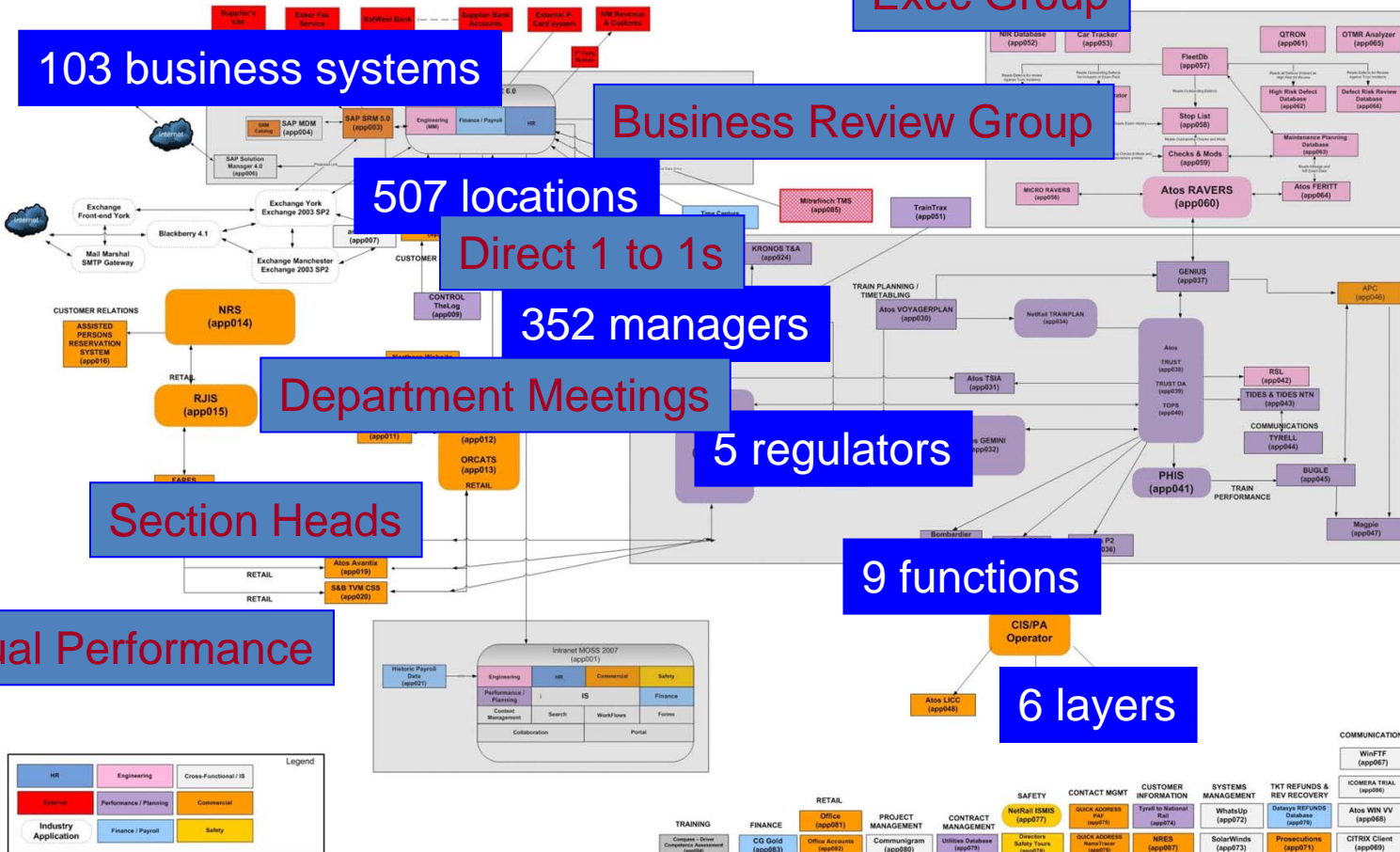
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RD CONSULTING

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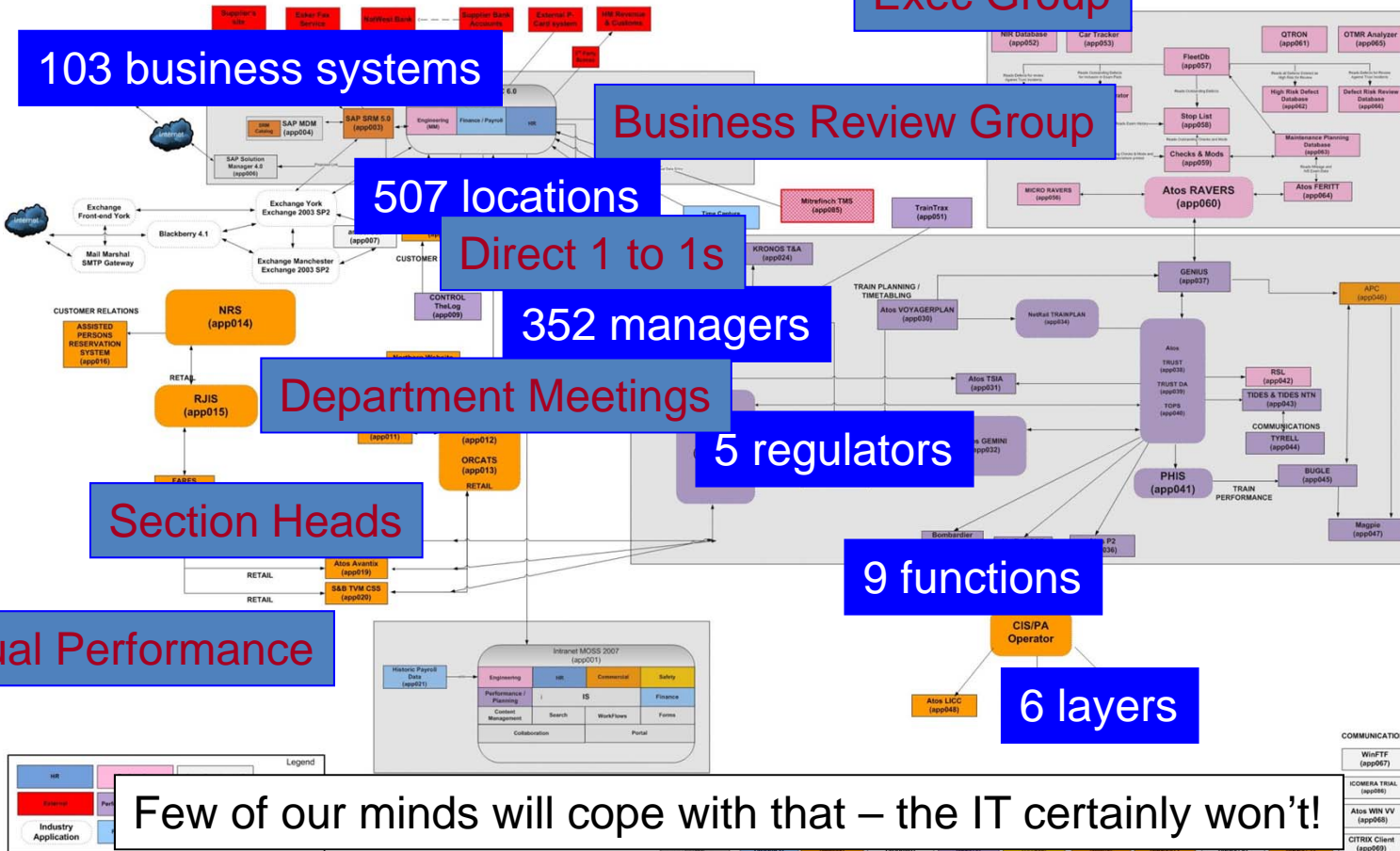
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Few of our minds will cope with that – the IT certainly won't!



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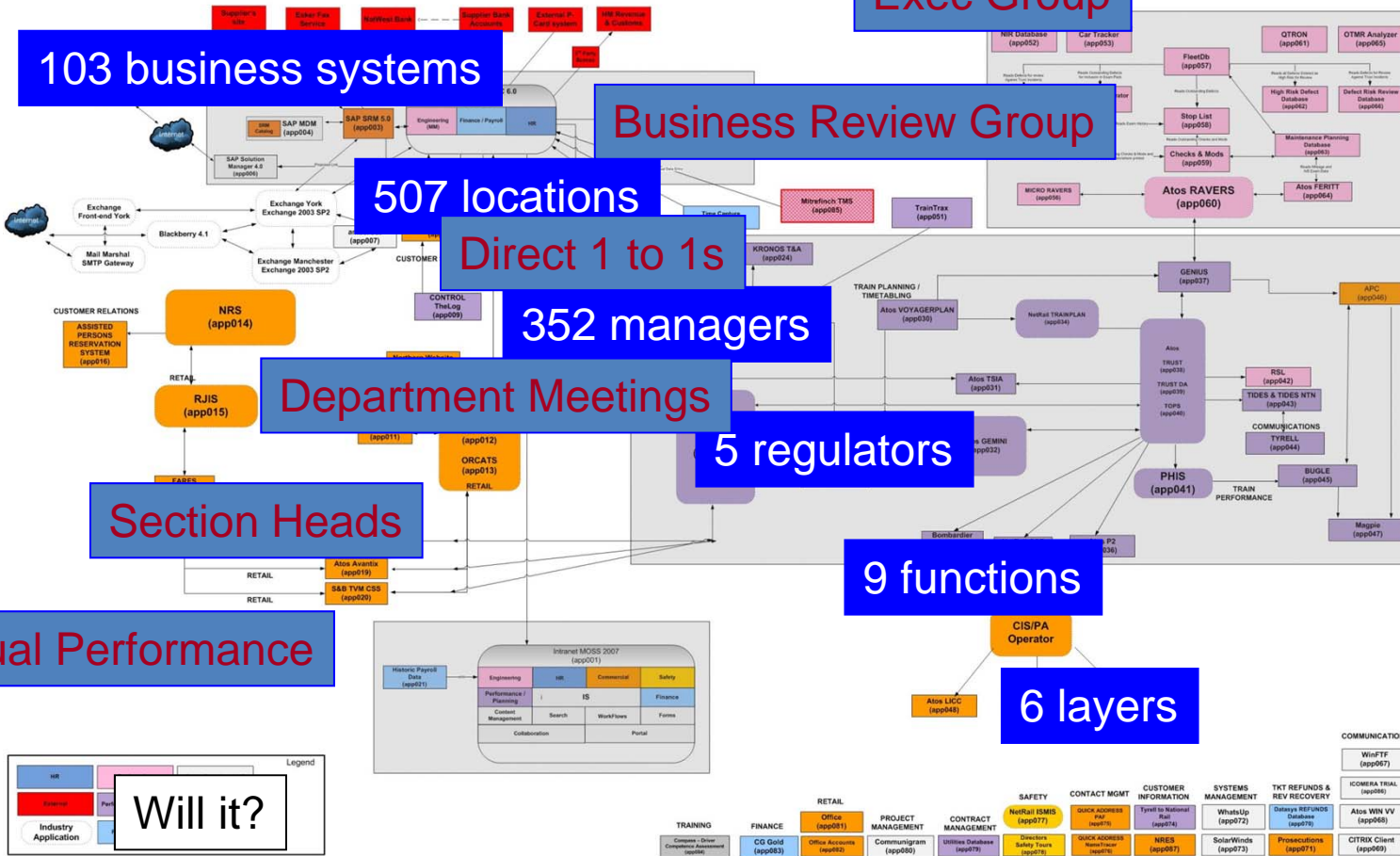
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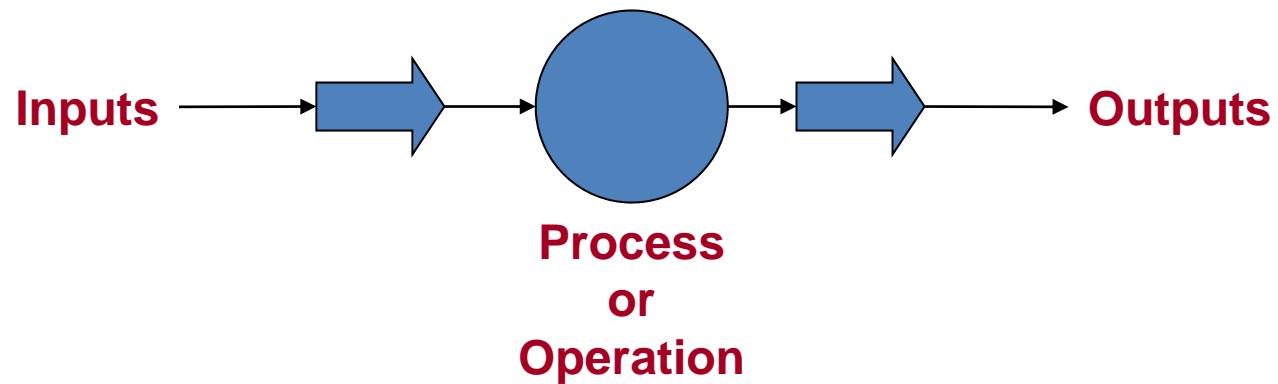
## Synthesising the argument

- A homeostat
  - a machine for synthesising the argument!



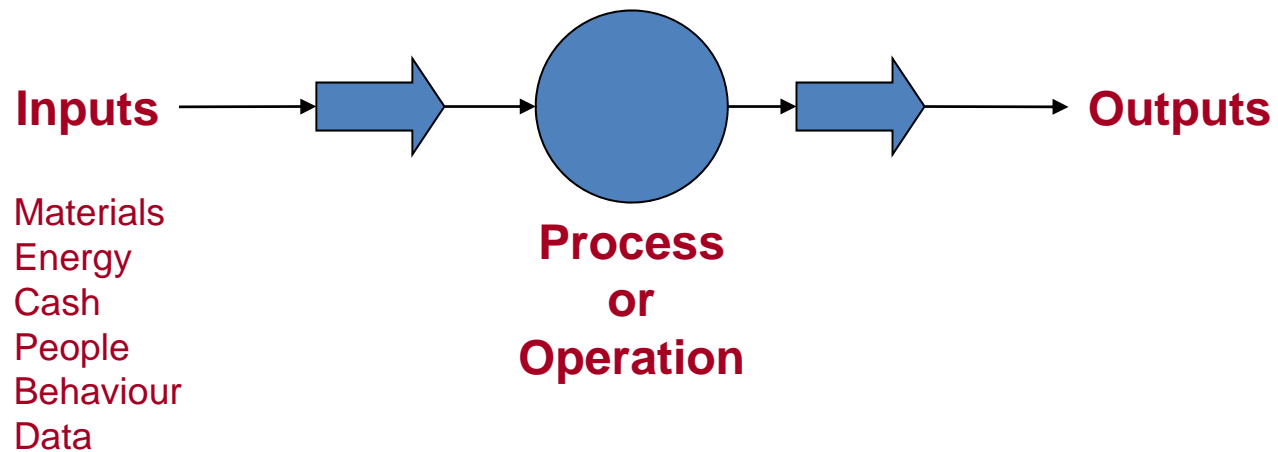
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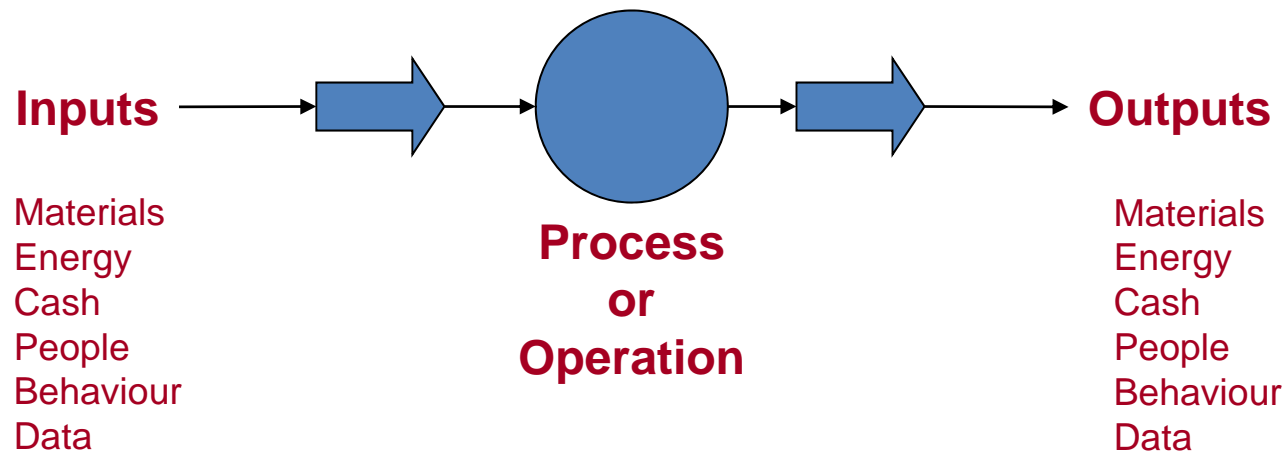
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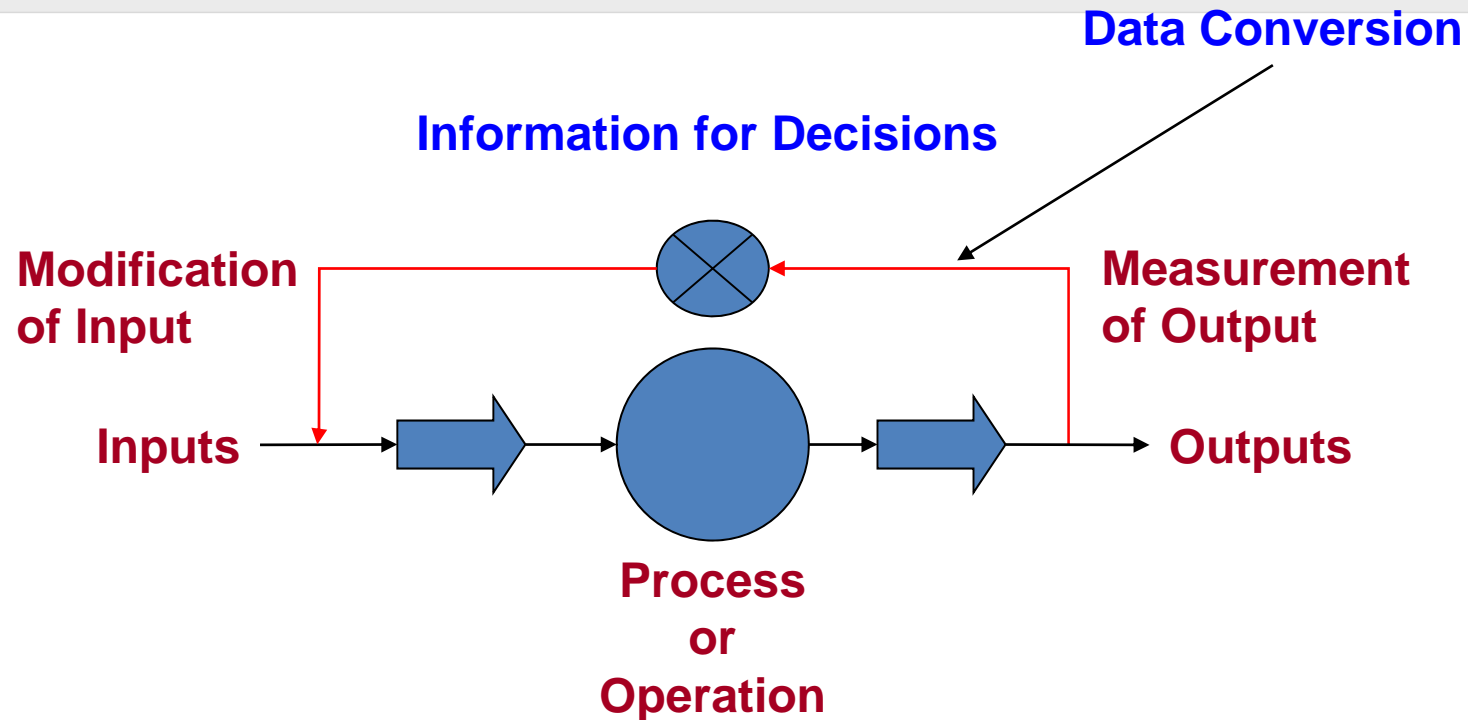


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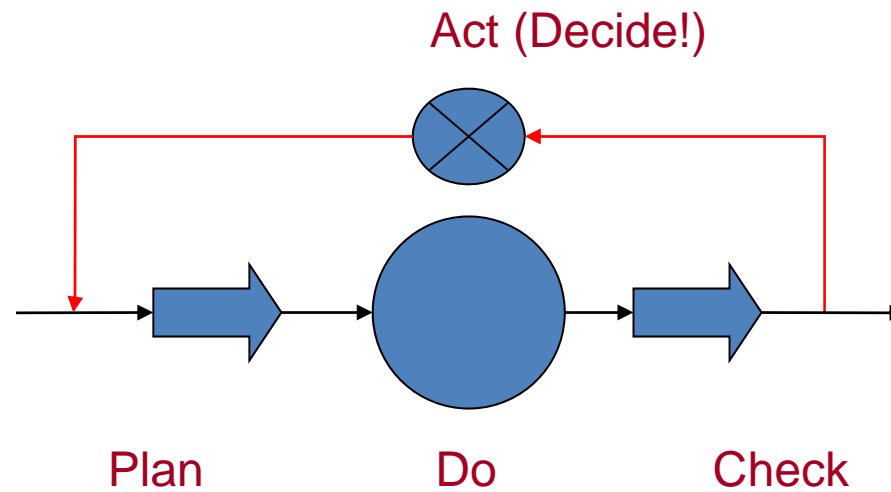
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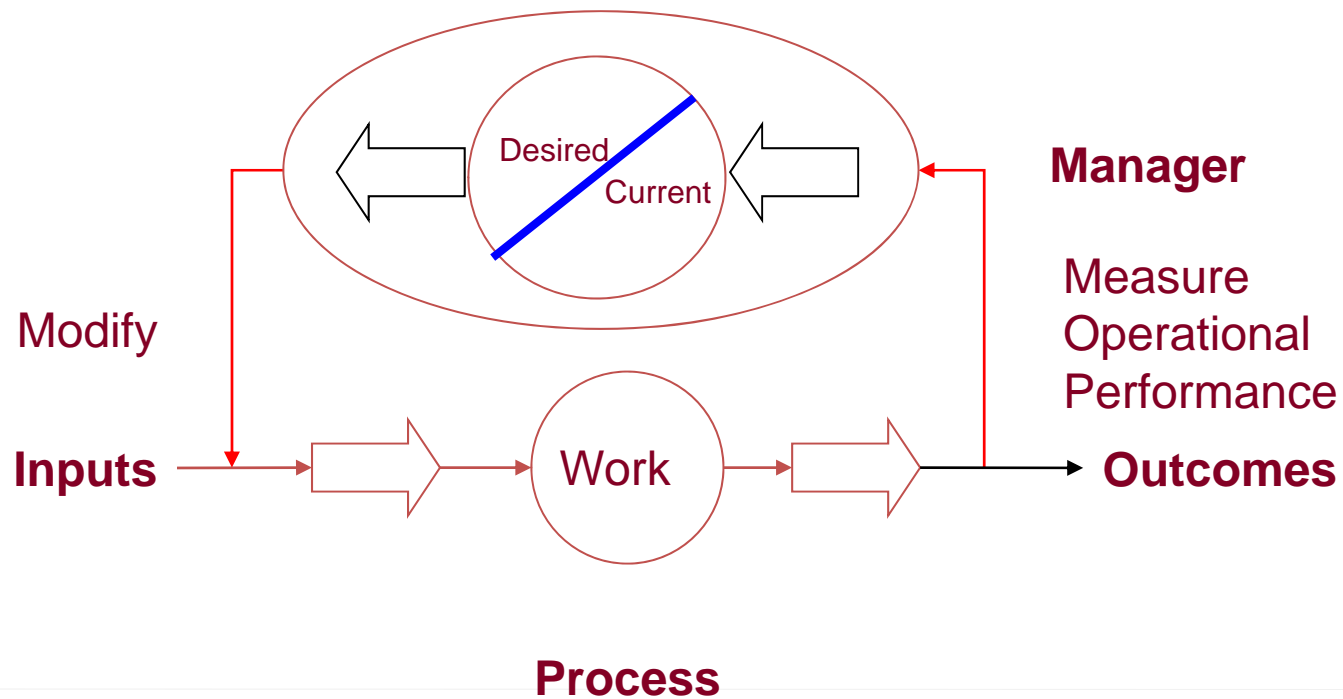
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Direct Relevance:

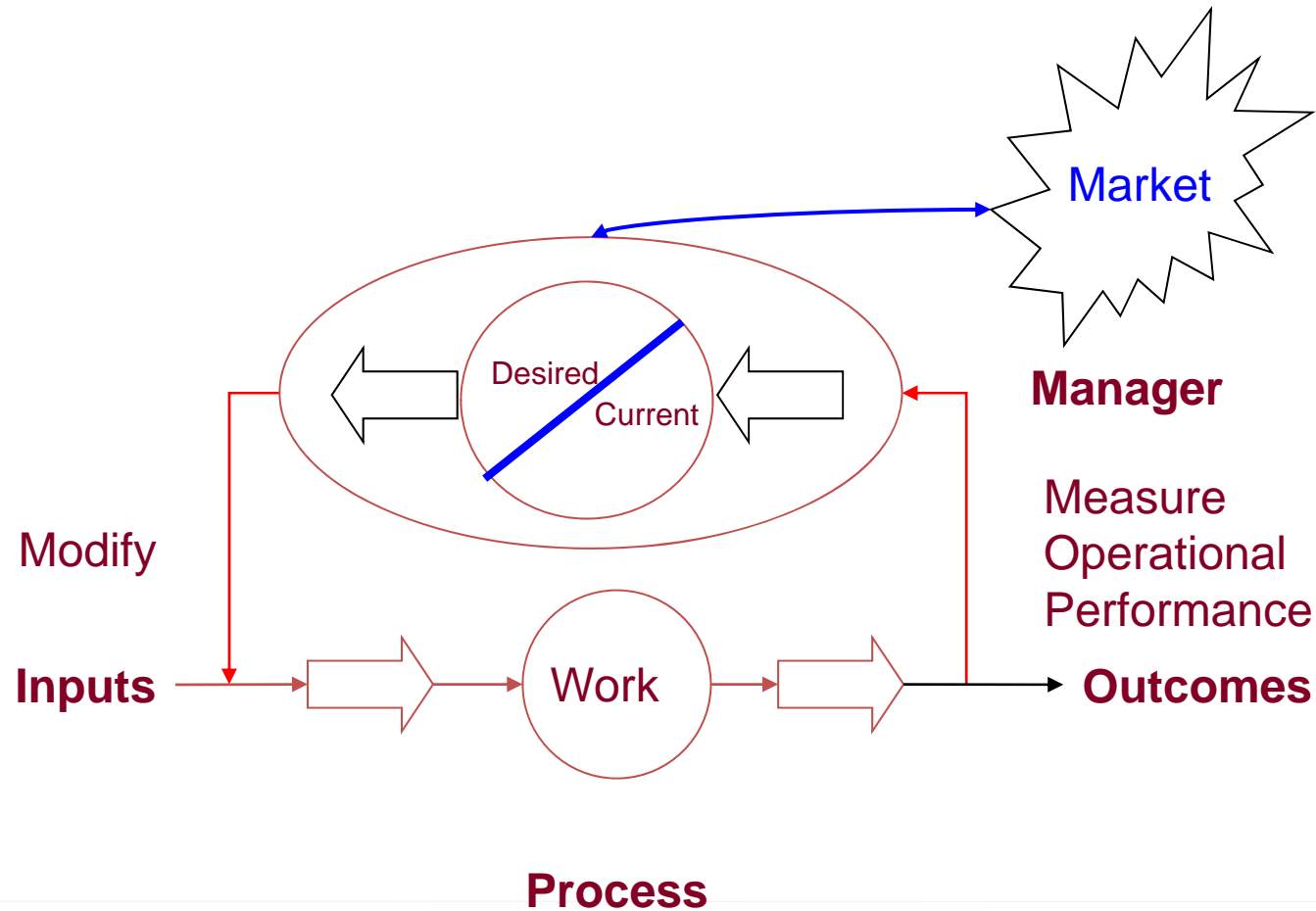
Did the actual (current) output of the process equal the desired output?



## Synthesising the argument

Contextual Relevance 1:

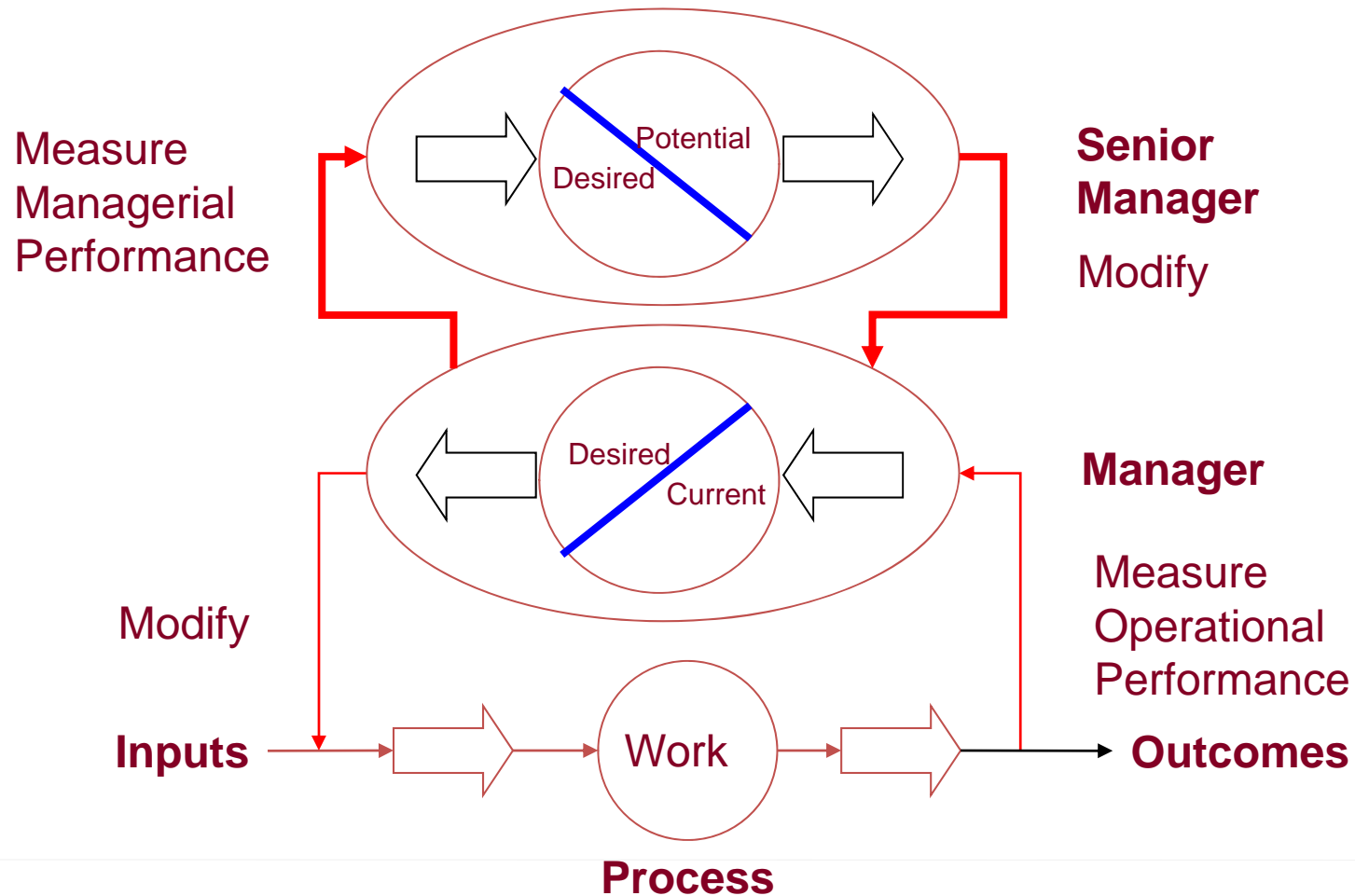
Did the actual (current) output of the process equal the needs of the market?



## Synthesising the argument

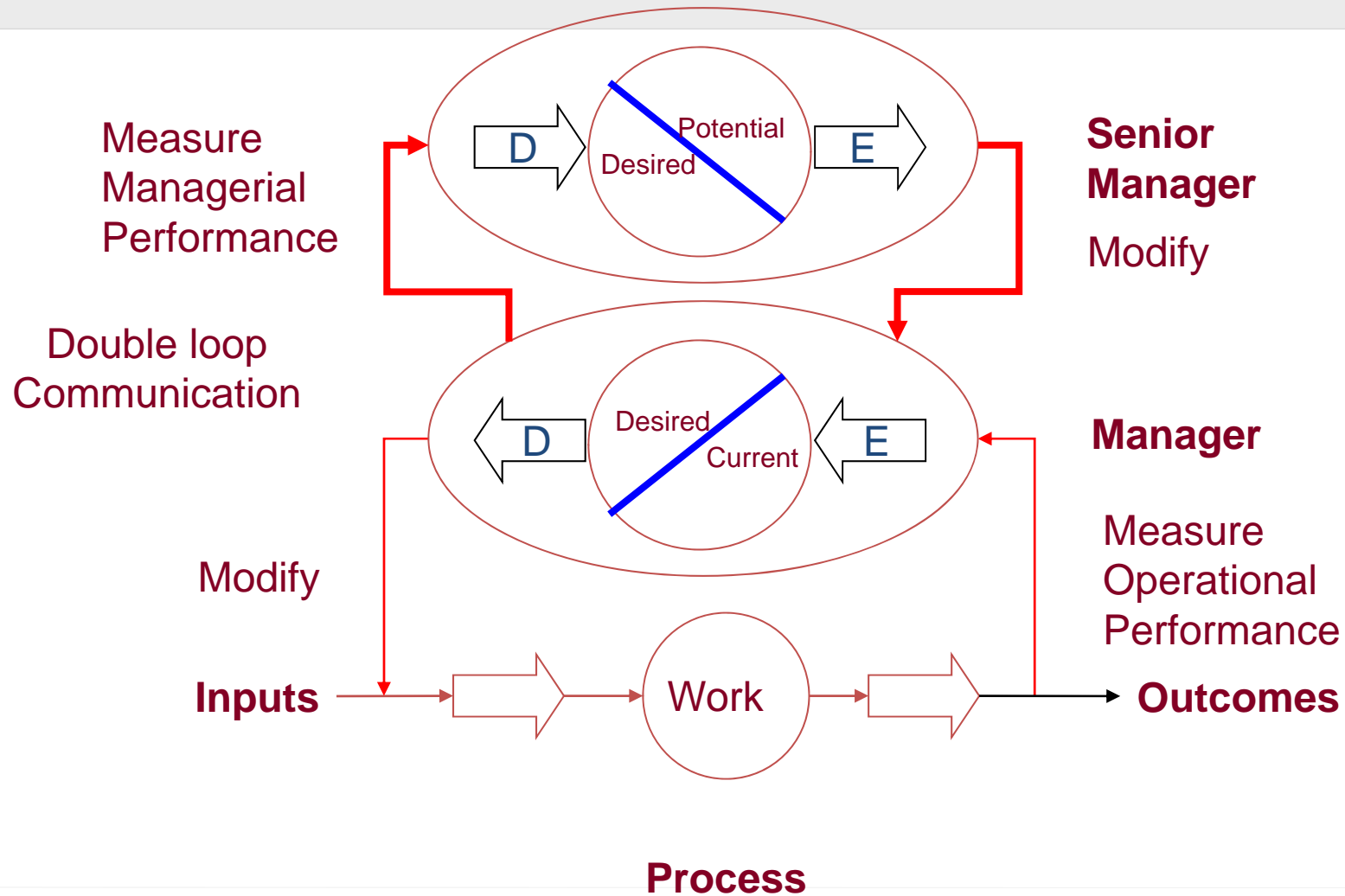
Contextual Relevance 2:

Did the actual (current) output of the process equal the expectations of the boss?

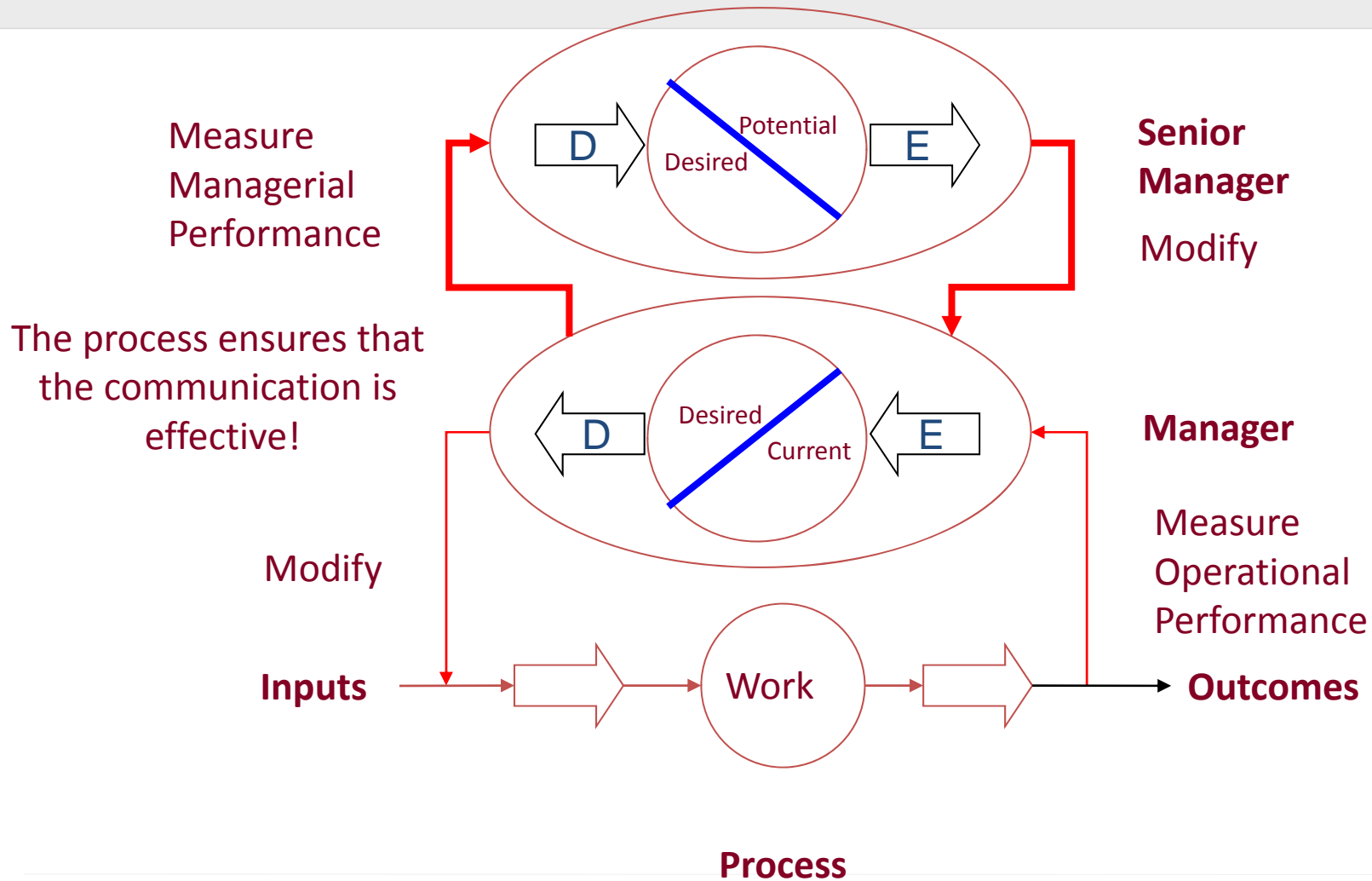




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5 regulators

Section Heads

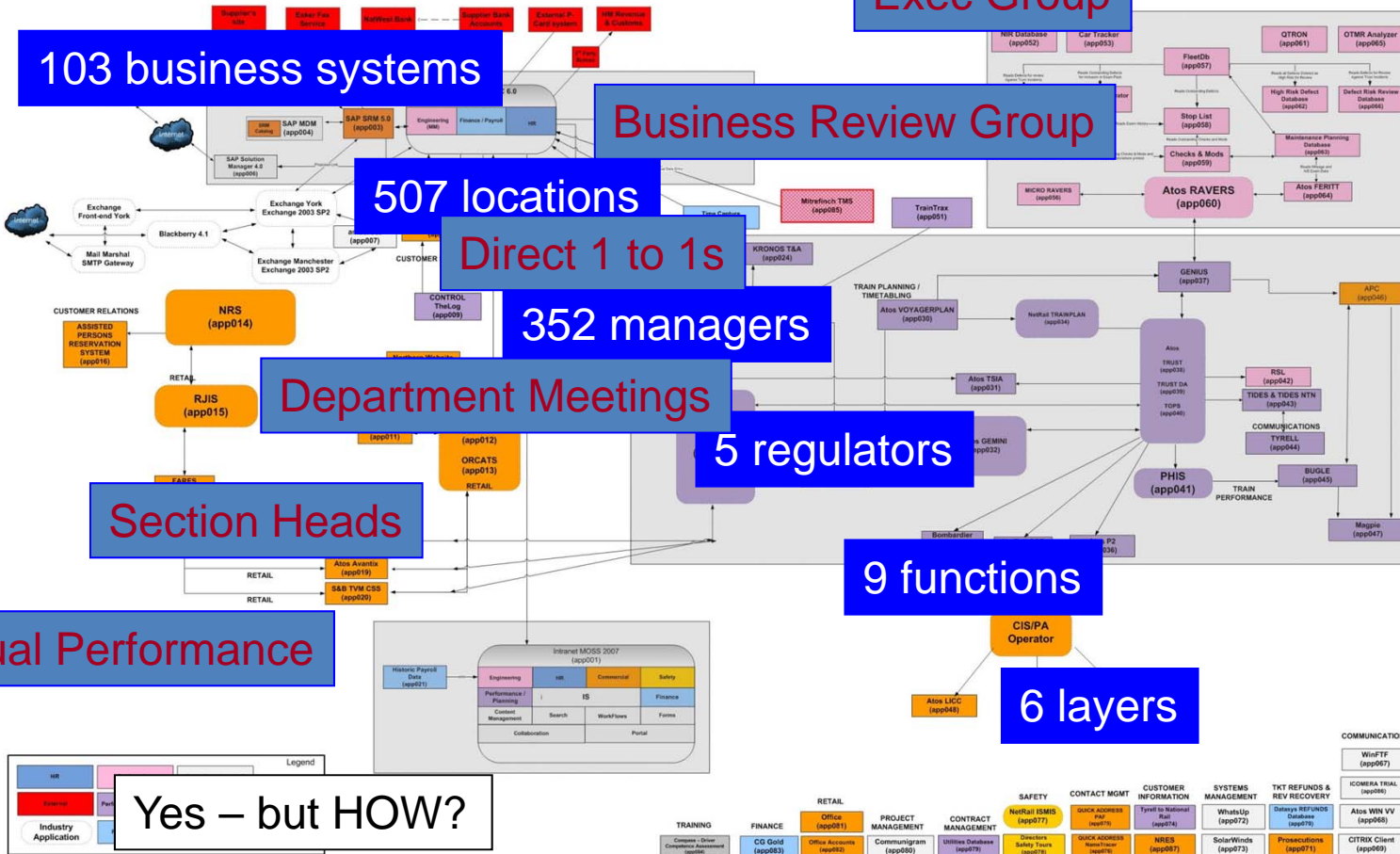
9 functions

Individual Performance

6 layers

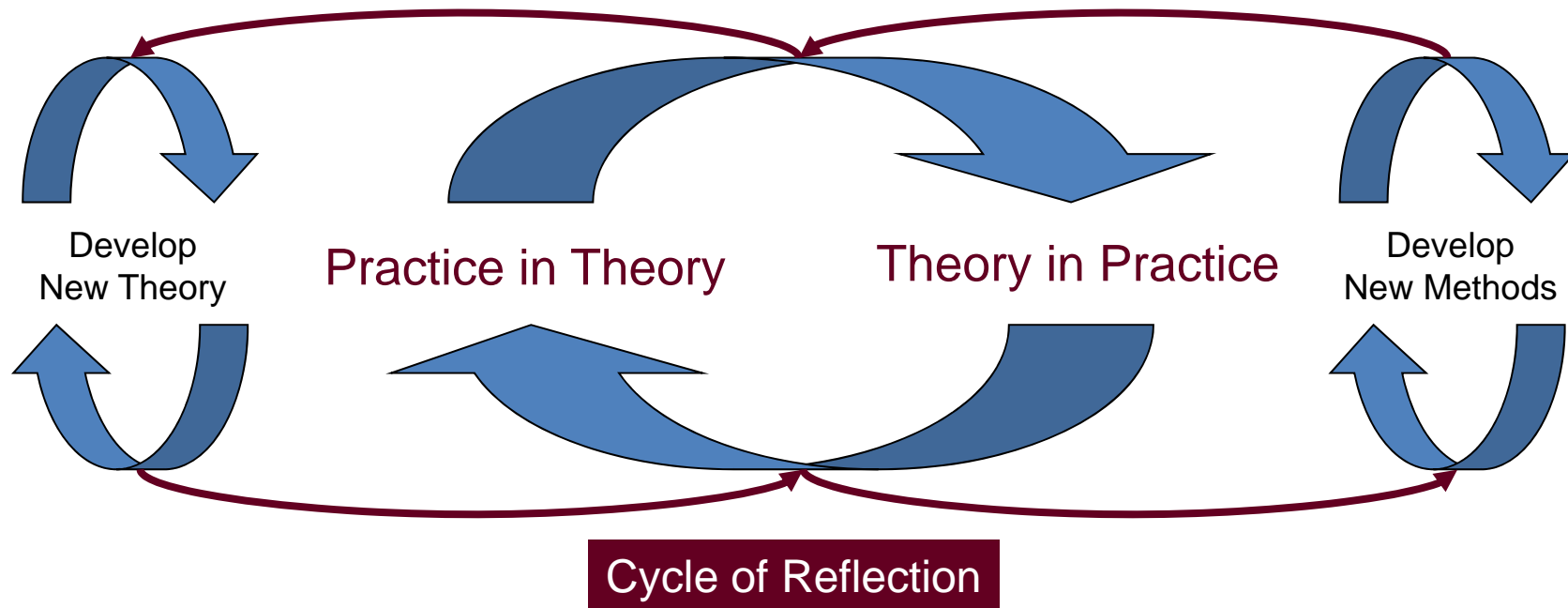
Project Reviews

Yes – but HOW?



- Decisions are often programmatic
  - they are a function of a prior decision and a stated objective
  - the reports are needed to trigger the appropriate organisational response
    - Fix it, stop it, do it again, do it the same but faster, cleaner cheaper....
- IT can be great at
  - programmatic reporting
  - decision support
- Let's design systems that let the machines do well what THEY do well – and free the people up for the real work!

# Virtuous Learning Cycle



## The Sisters of Nazareth

- Global Organisation
  - 150 years of highly devolved operation
- 6 Countries
- 5 Regions
- 300 Members
- 2000 Lay Staff
- 42 Care Homes
- 2 Orphanages
- 4 Schools
- One Mission

## The Sisters of Nazareth

- The Challenge:
  - How to survive for the next 150 years
  - How to manage for the next 5?
- Falling (and ageing) numbers of Sisters
- Declining for 10 years
- Changing Regulatory Environment
- Demanding Economic Environment
- Response has been to shrink
- This leads to failure of the Mission!

## The Sisters of Nazareth

- Organisational Response:
  - Change role of Sisters
    - From Operators to Governors
  - Appoint Regional Directors and Boards
  - Locally develop business plans for recovery
- How would you develop an Information Strategy to bring it all together?



## The Sisters of Nazareth

- How would you develop an Information Strategy to bring it all together?
- Specifically, how would you develop and deploy an internal communications strategy using Sharepoint as the technical base?

## The Sisters of Nazareth

- How would you develop an Information Strategy to bring it all together?
- Specifically, how would you develop and deploy an internal communications strategy using Sharepoint as the technical base?
- PhD anyone?

## After all that?

- Making a living from IT
- The Virtuous Learning Cycle
- The Challenges
  - 'I' not 'T'
- Information Projects
  - The Value of Information
  - Managing Projects
  - Rol
- A Model of Learning
- Information for Decision
- An Opportunity?