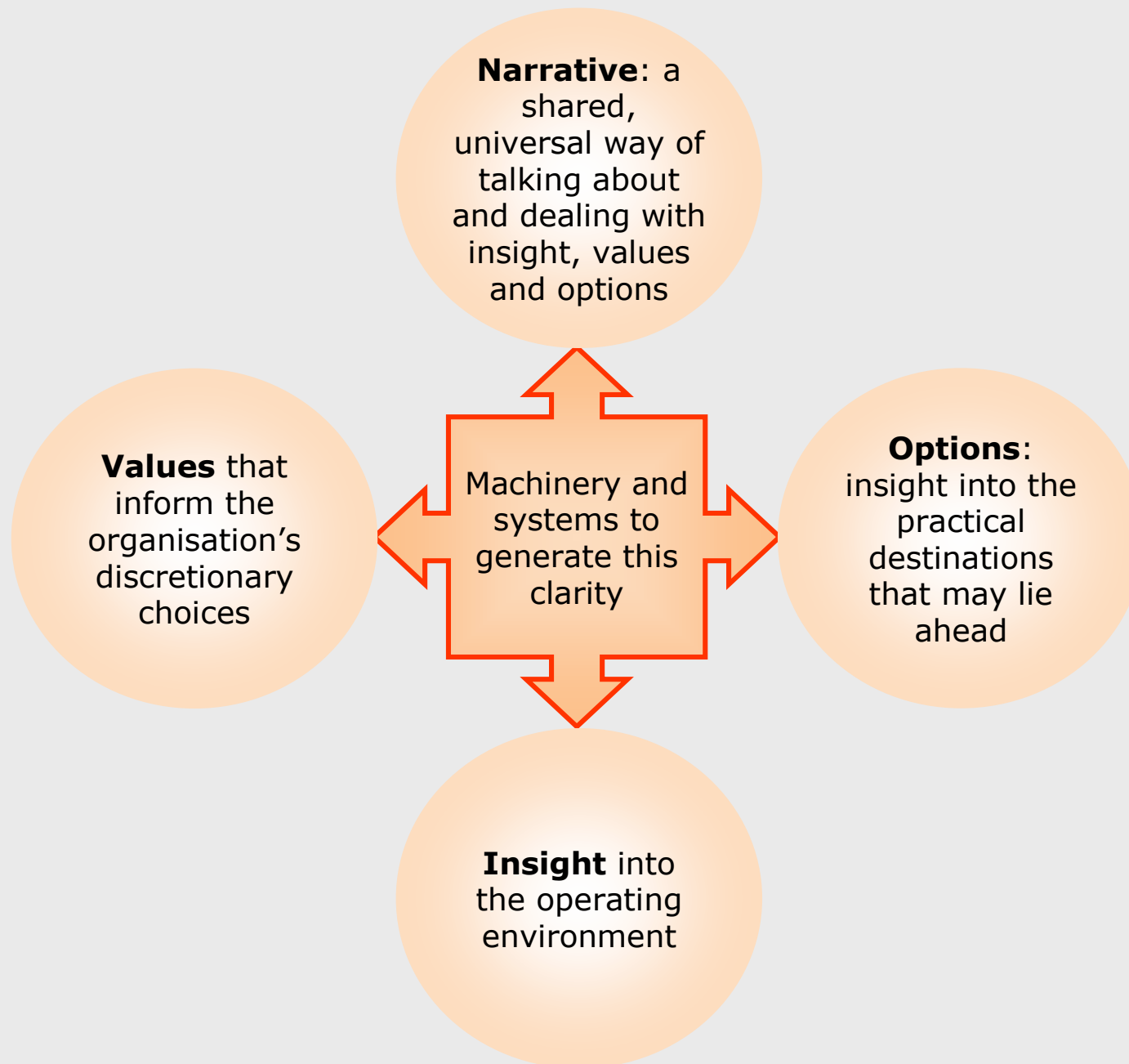
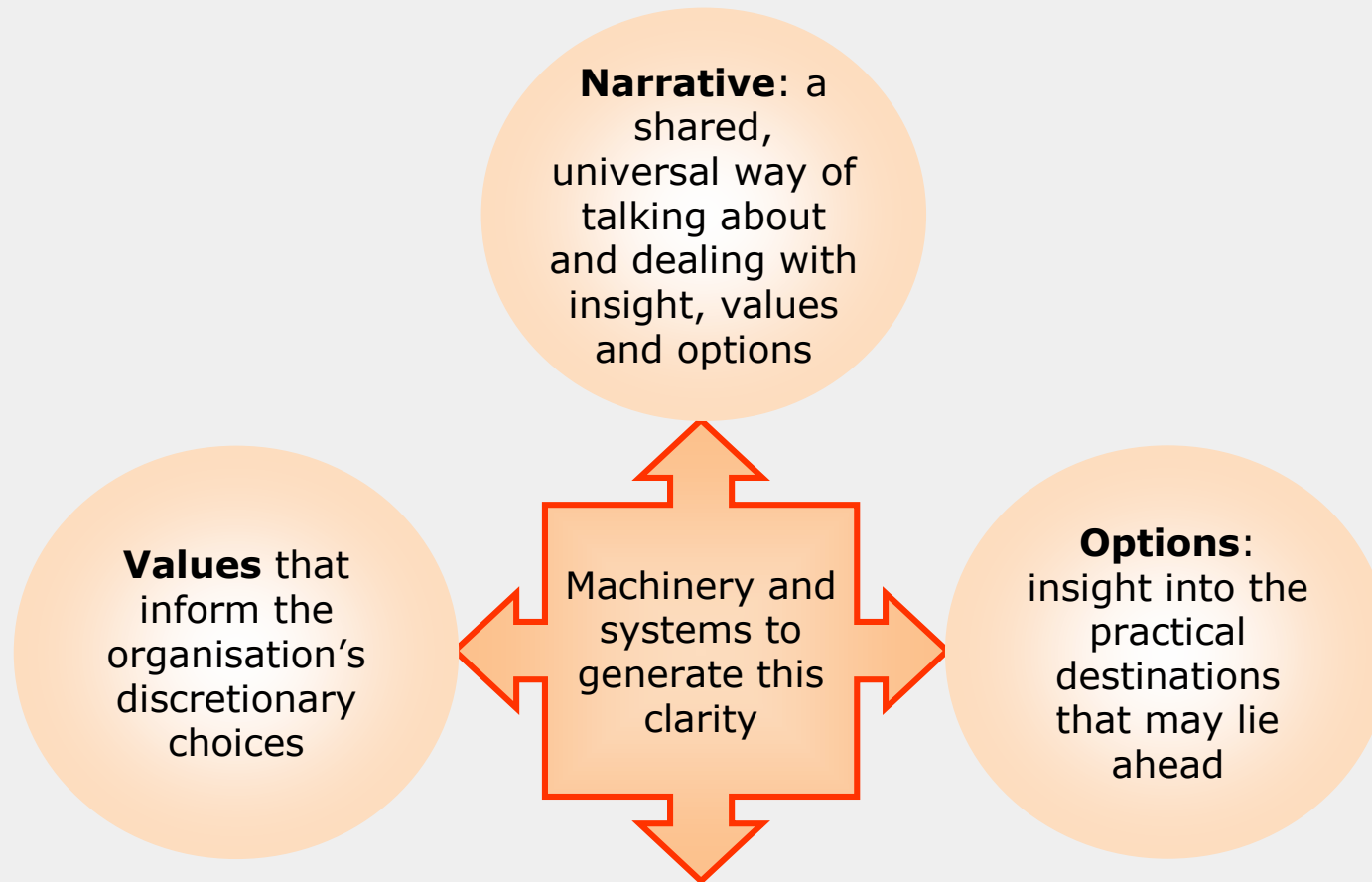


## Technology management

- Review of yesterday's work, introduction.
- Three basic purposes that technology fulfils.
- Workshop: successes & gaps in IMP technology management..
- Cost and productivity; also risk, stability and quality.
- Introducing the idea of renewal.
- A systems approach to renewal.
- Discussion: gap analysis of current situation.
- Towards a structure to ensure focused technology

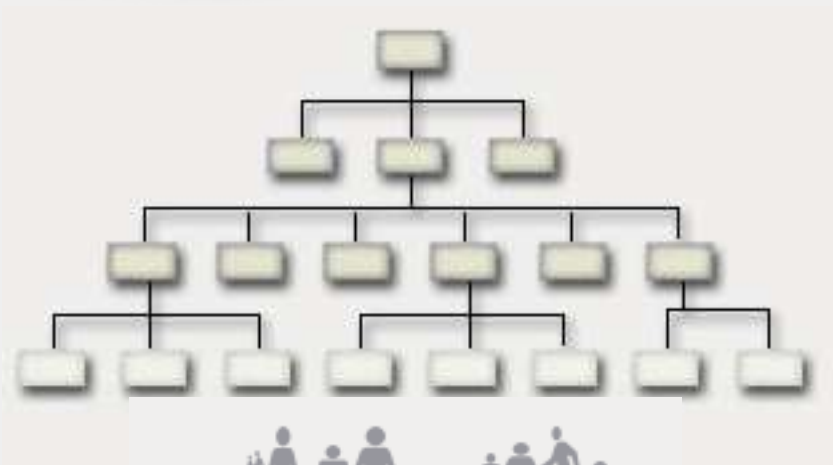




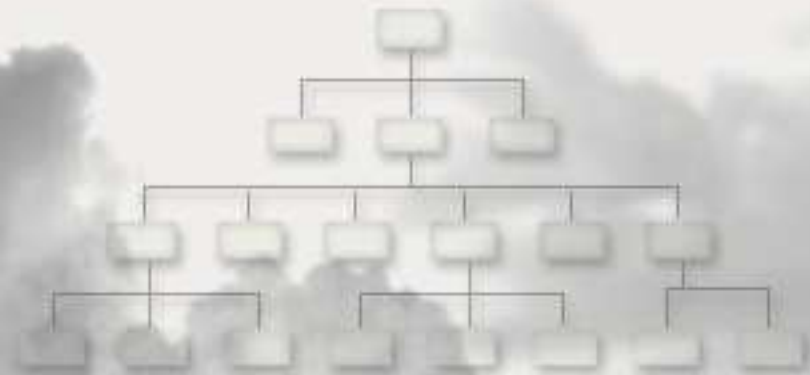
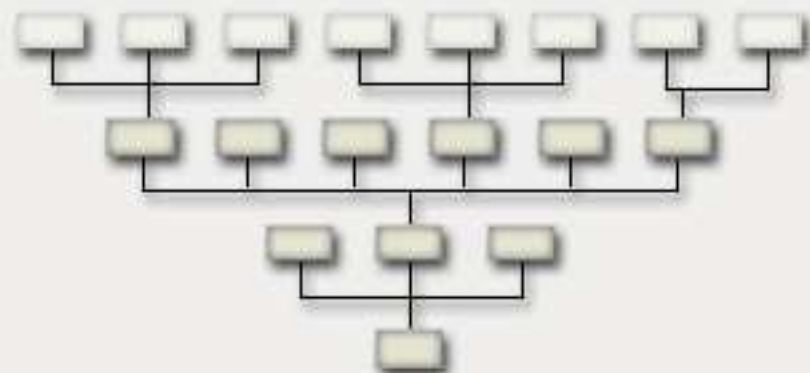
Customers and stakeholders

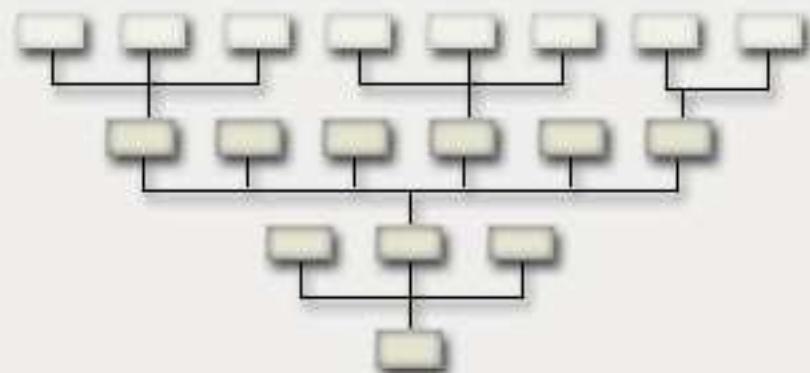
Renewal

Business environment



Customers and stakeholders







Routine operations

Renewal

Innovations and  
step-outs

Ideas

Technology

Assessment and  
development processes



Routine operations

Assessment and  
development processes

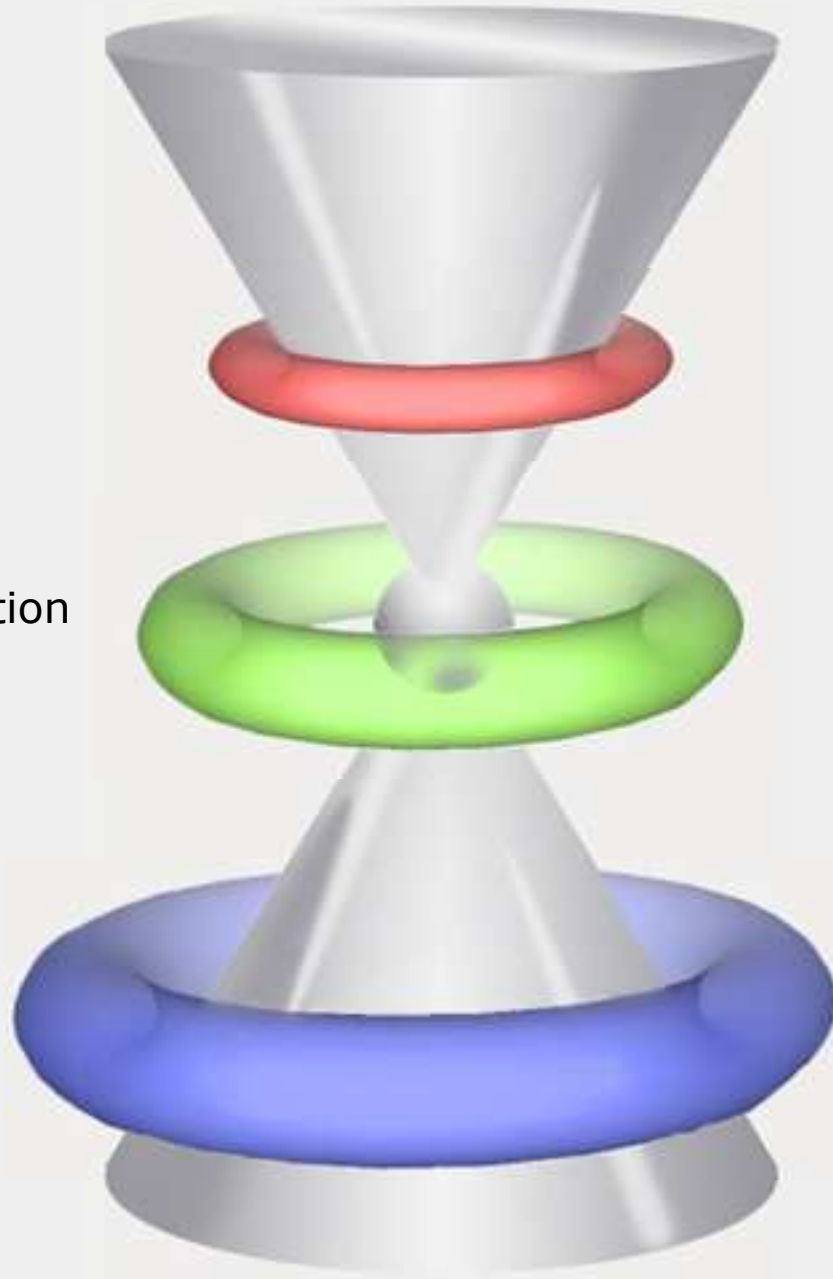


Evaluation

Routine operations

Assessment and  
development processes



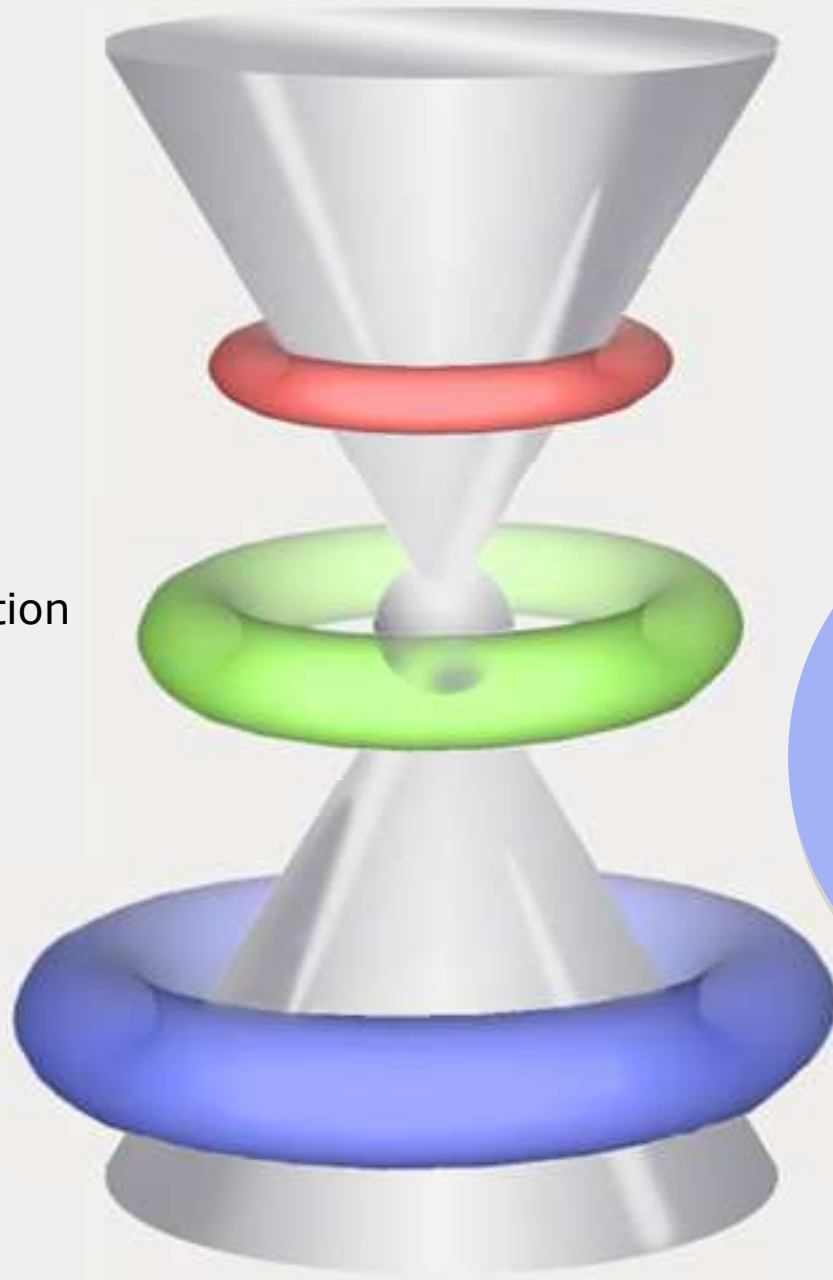


Evaluation

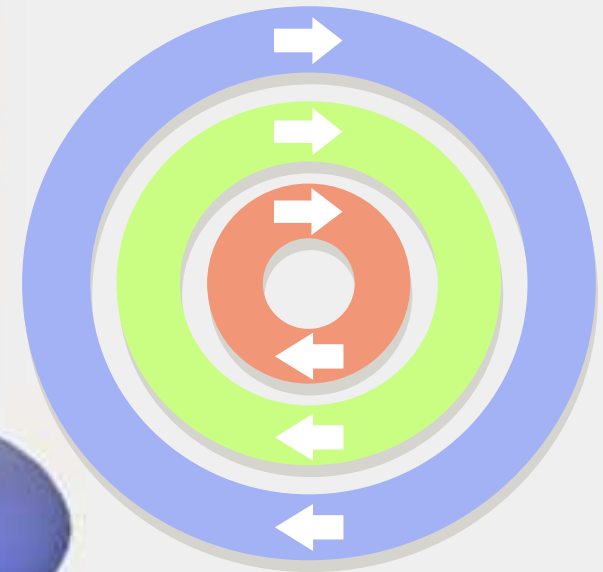
Routine operations

Assessment and development processes

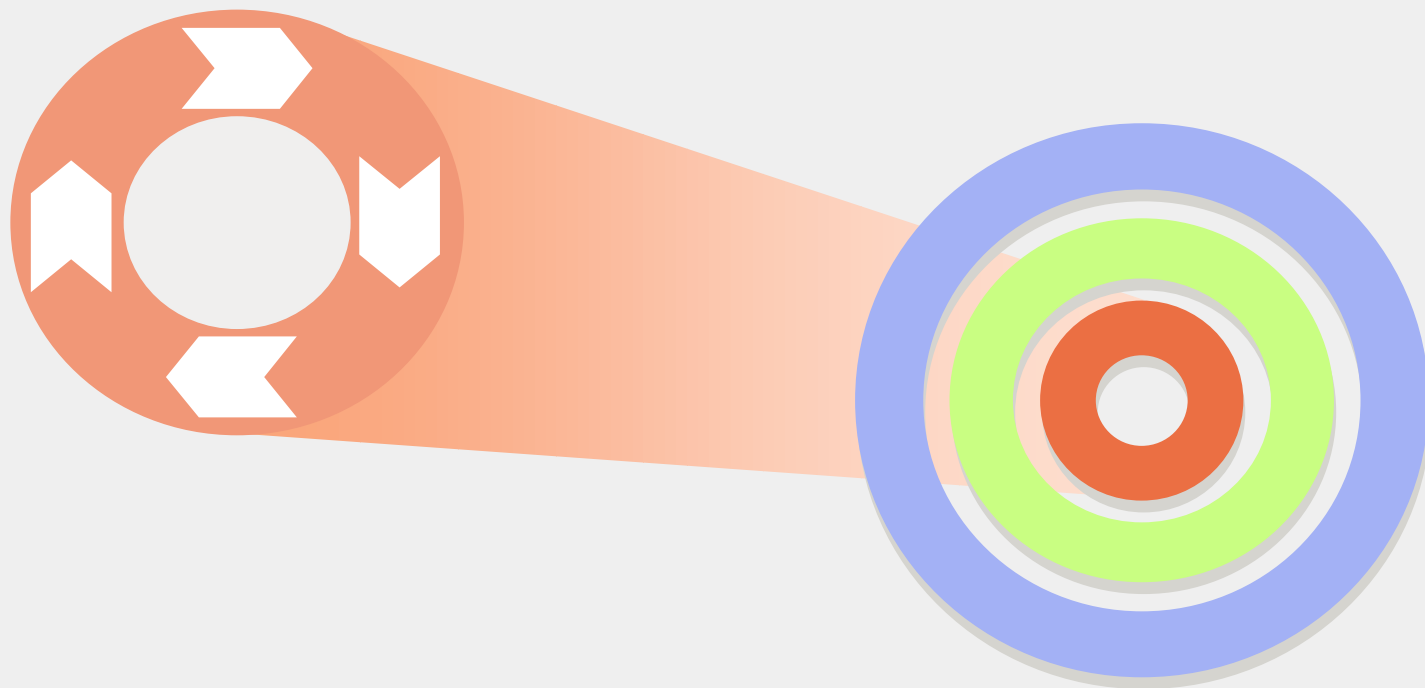
Evaluation

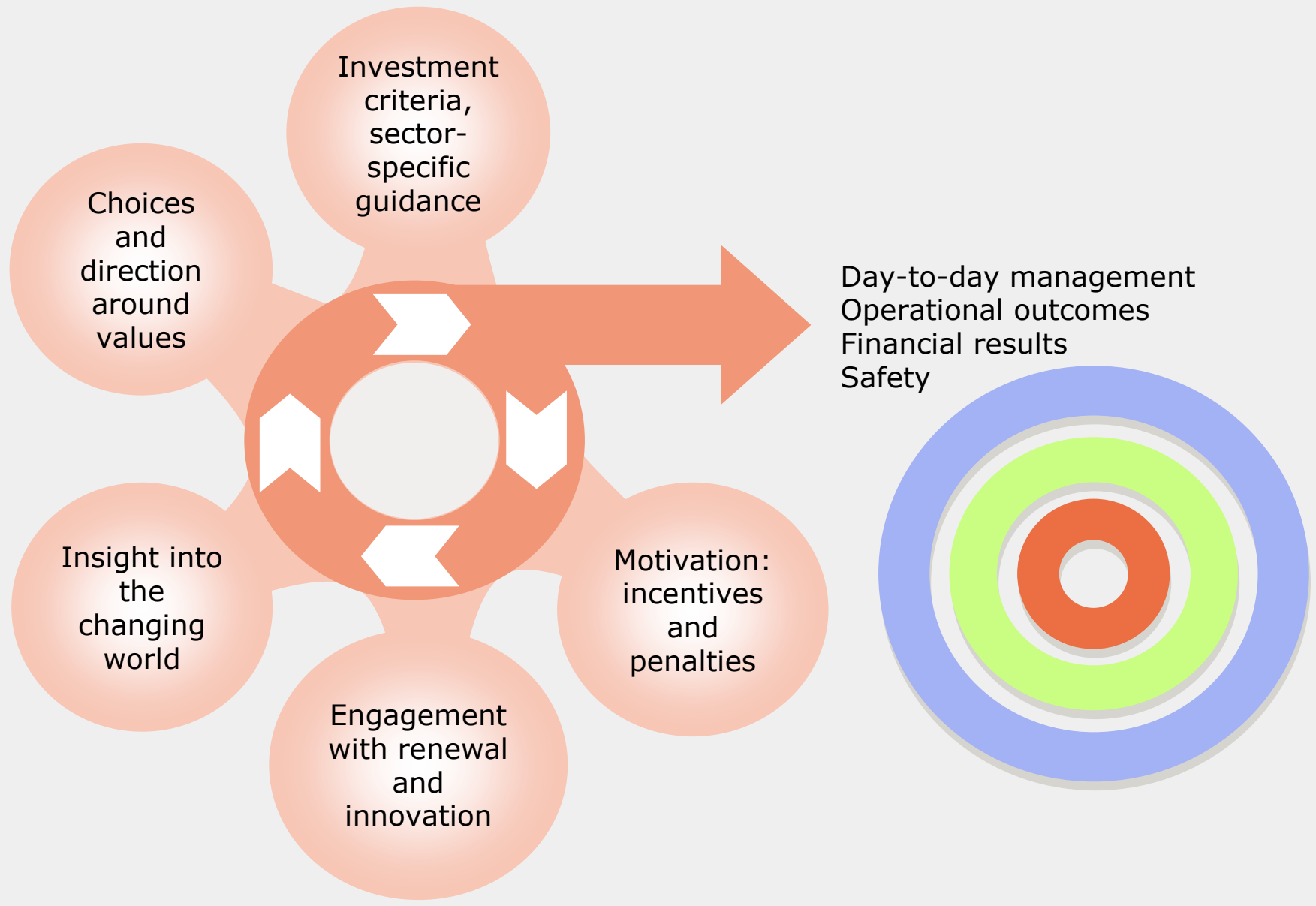


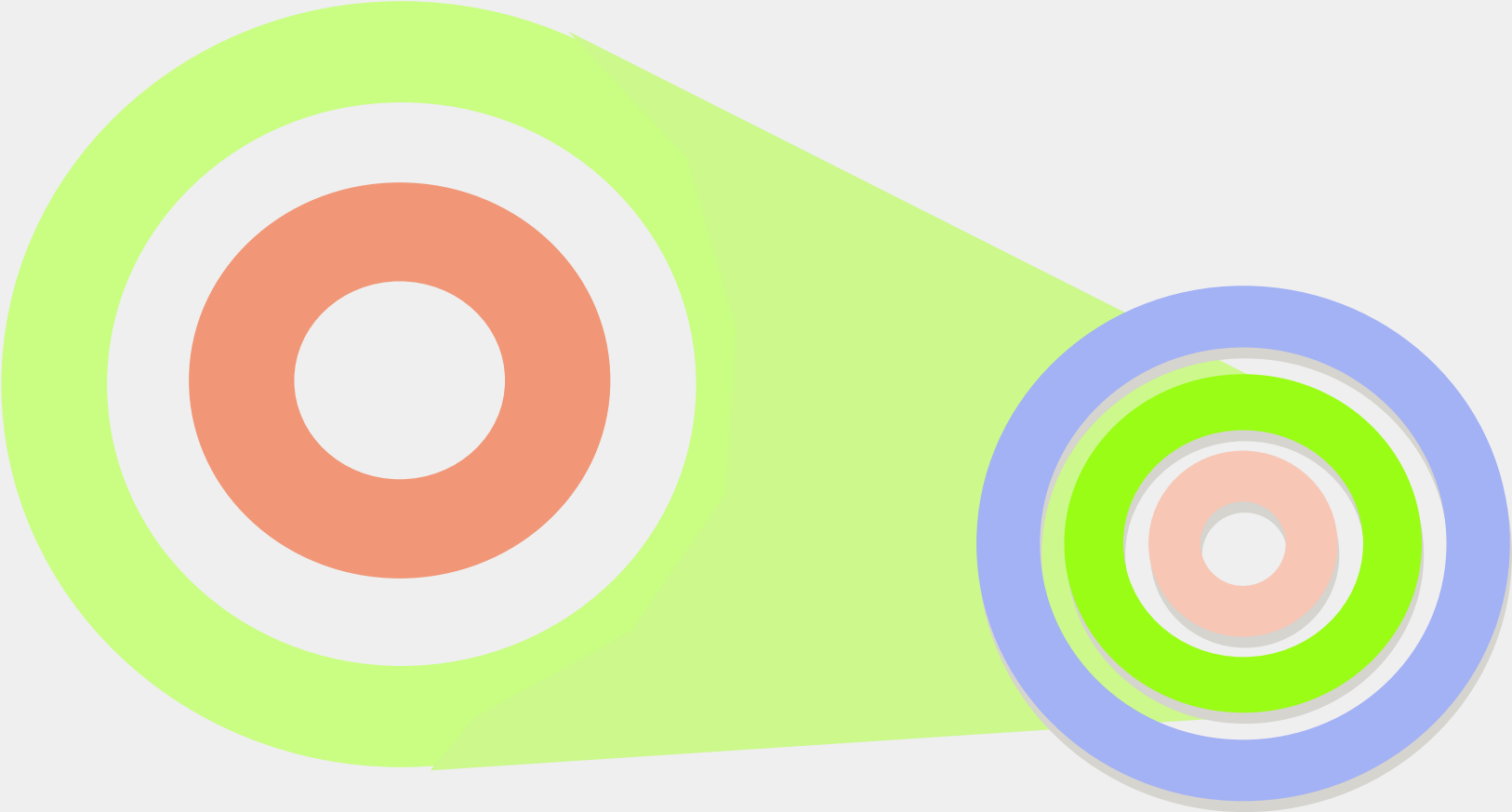
Routine operations

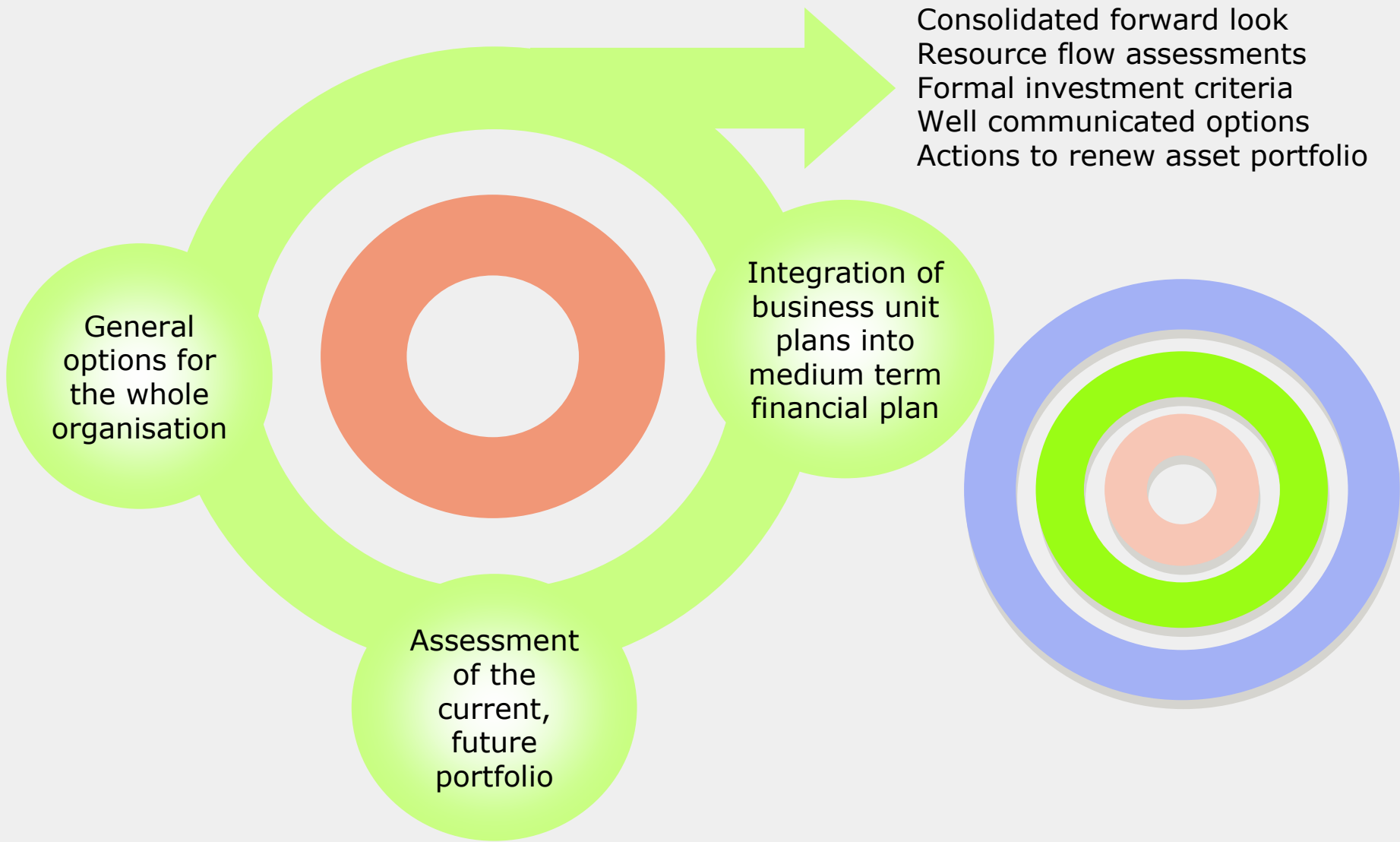


Assessment and development processes

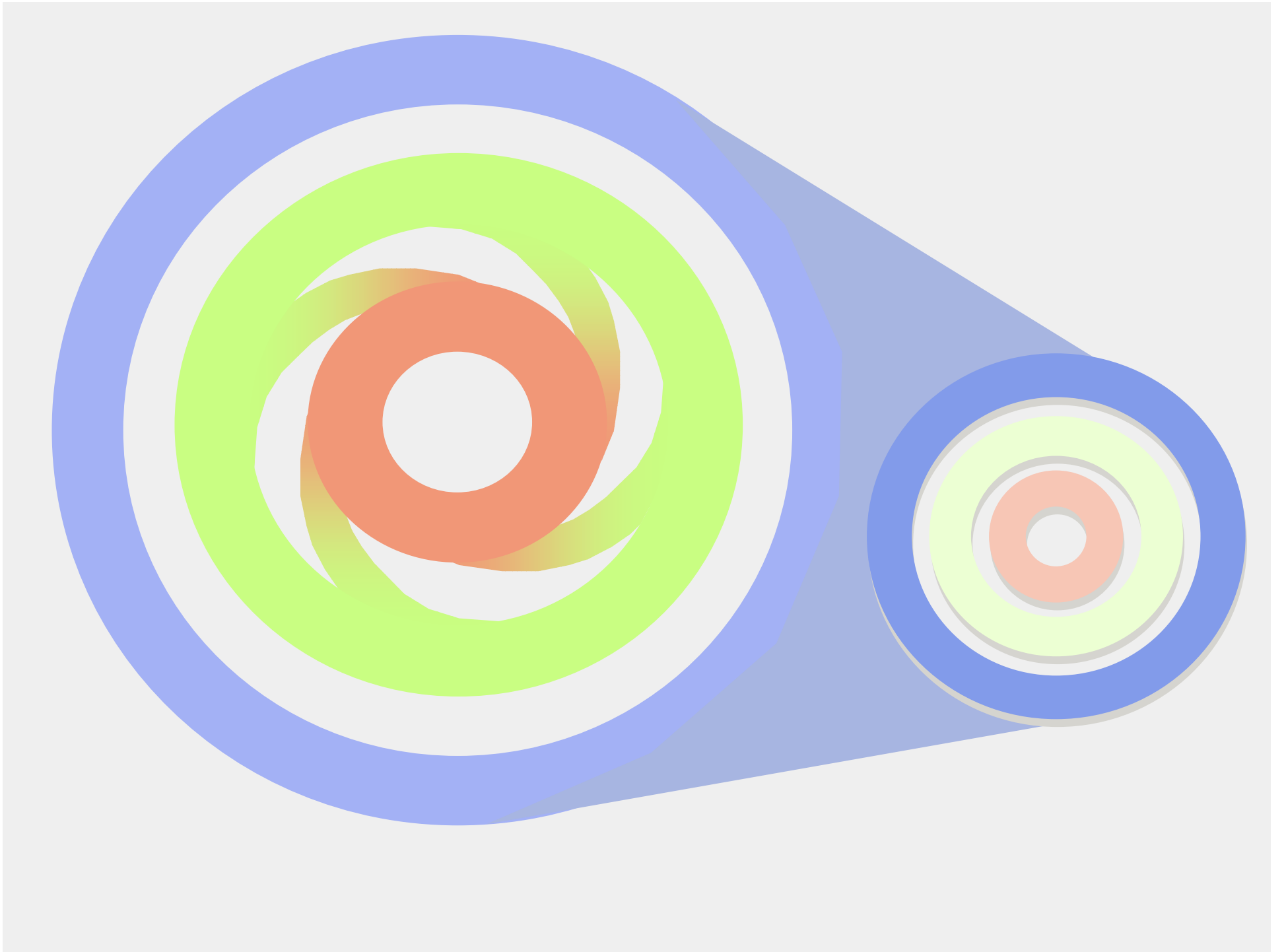


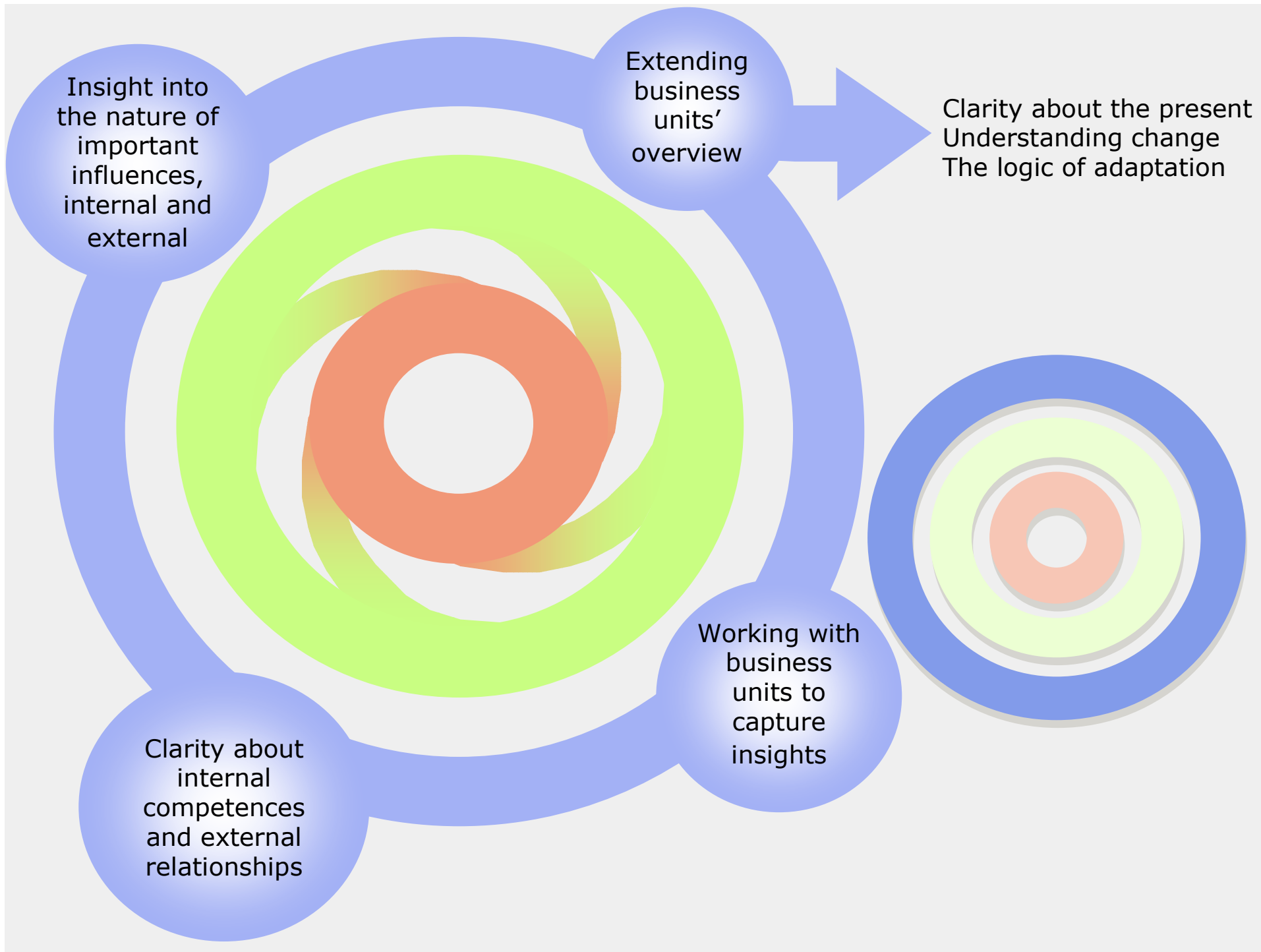


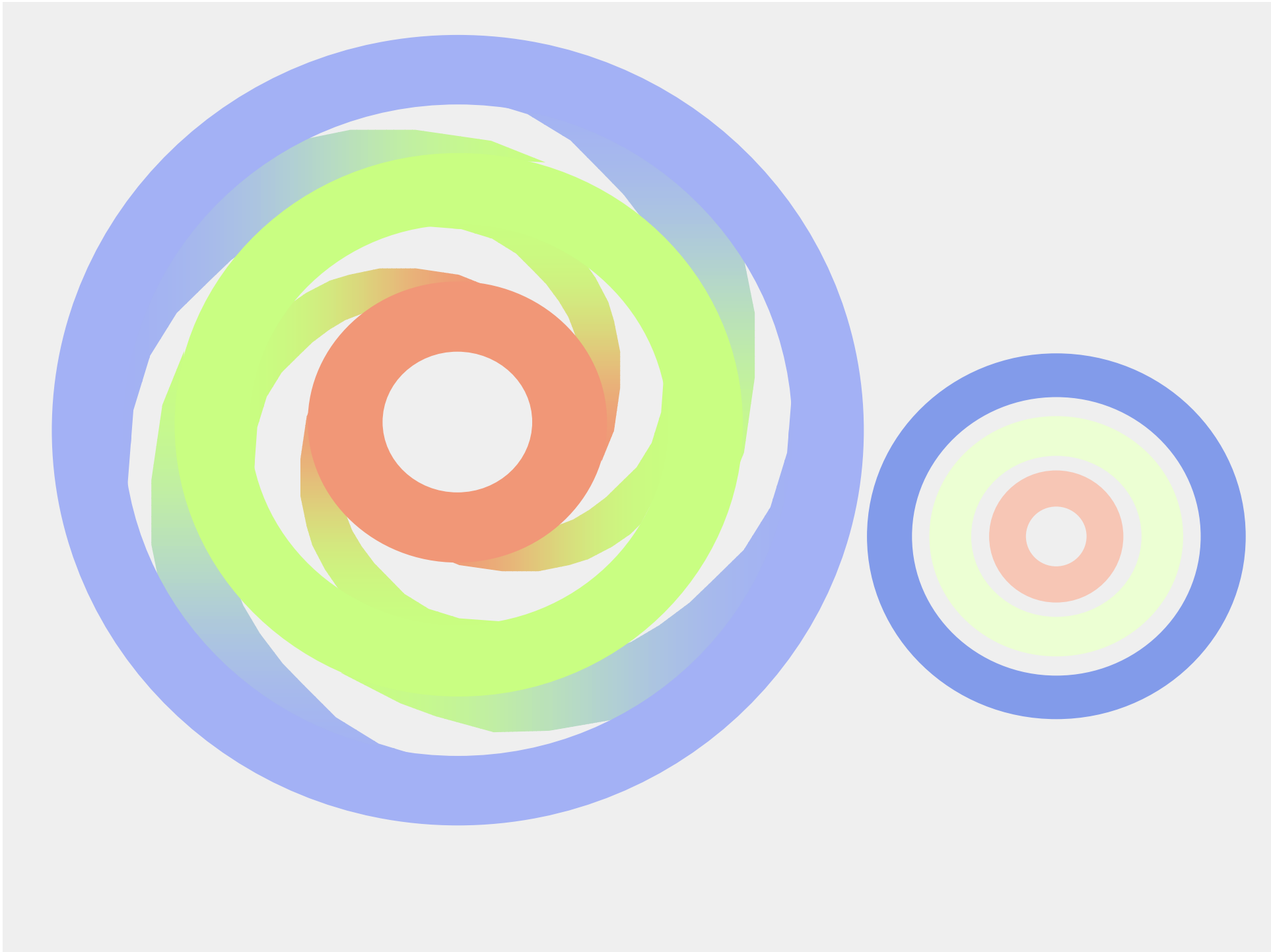


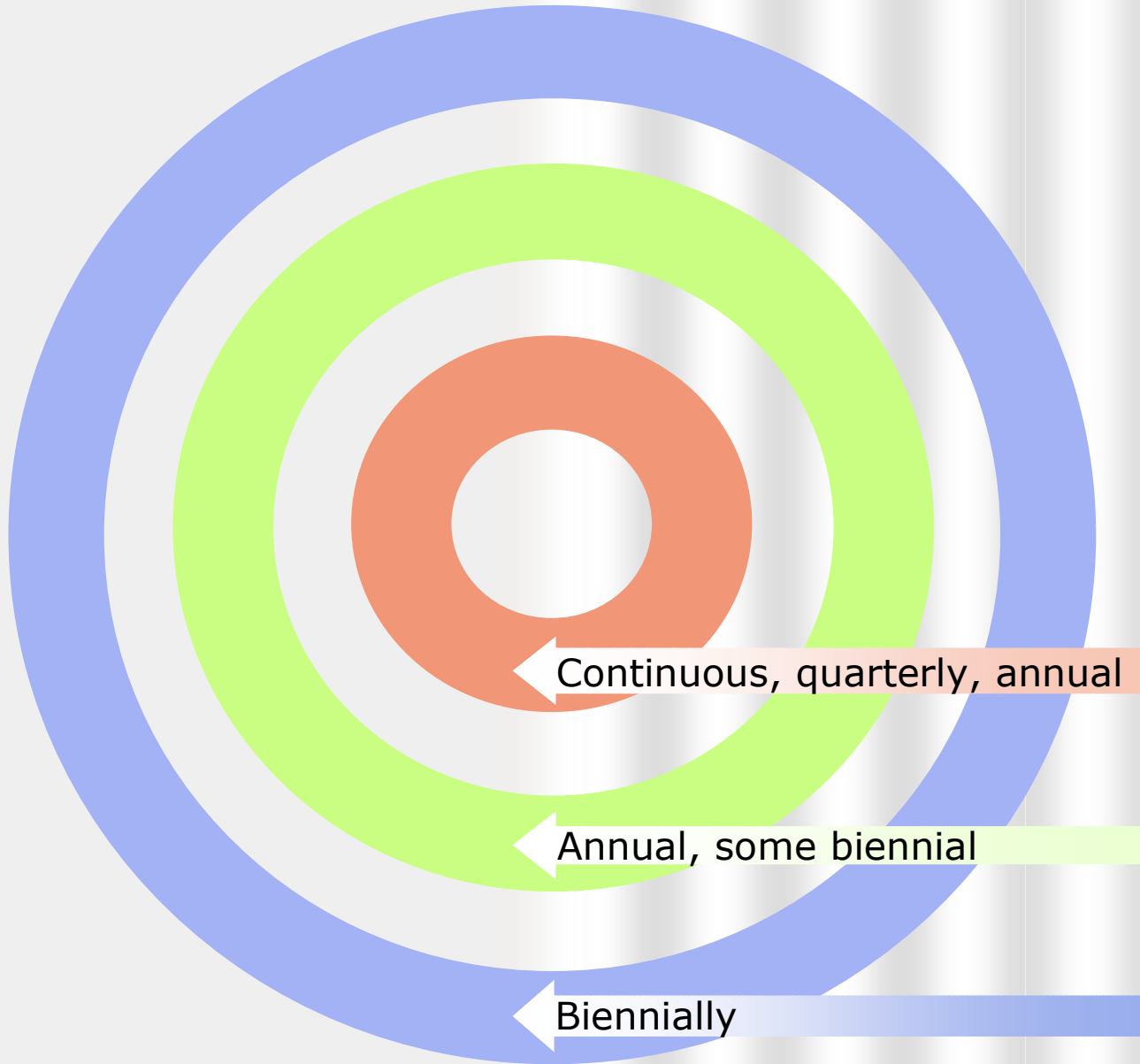






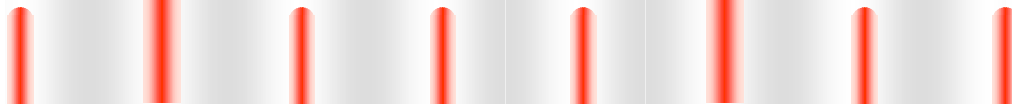






To manage this effectively, an organisation needs a formal process

1Q 2Q 3Q 4Q 1Q 2Q 3Q 4Q



Quarterly results, annual report to shareholders



Annual portfolio assessment, biennial options review



Biennial review of the operating environment

1Q 2Q 3Q 4Q 1Q 2Q 3Q 4Q



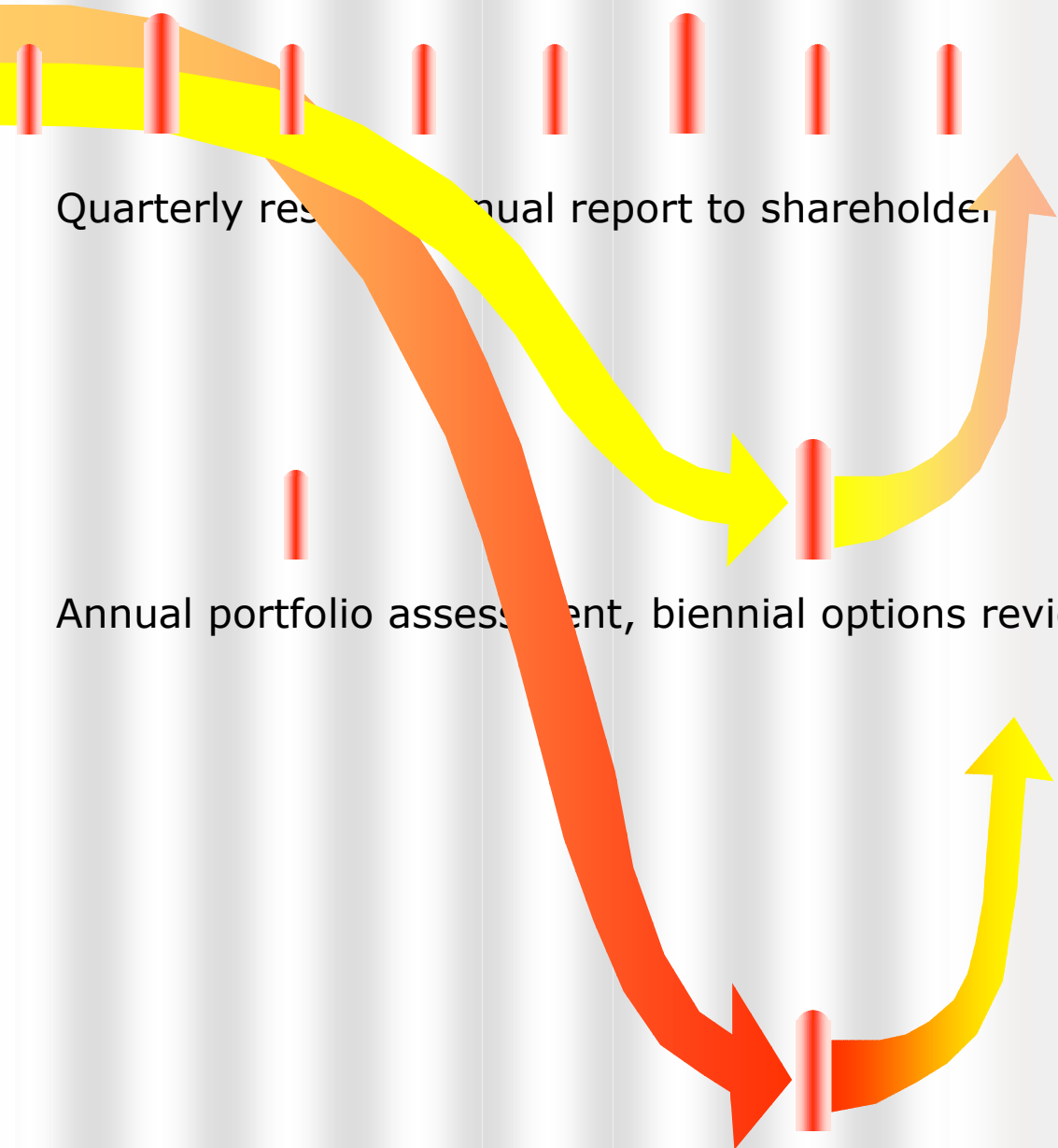
Quarterly results, annual report to shareholder

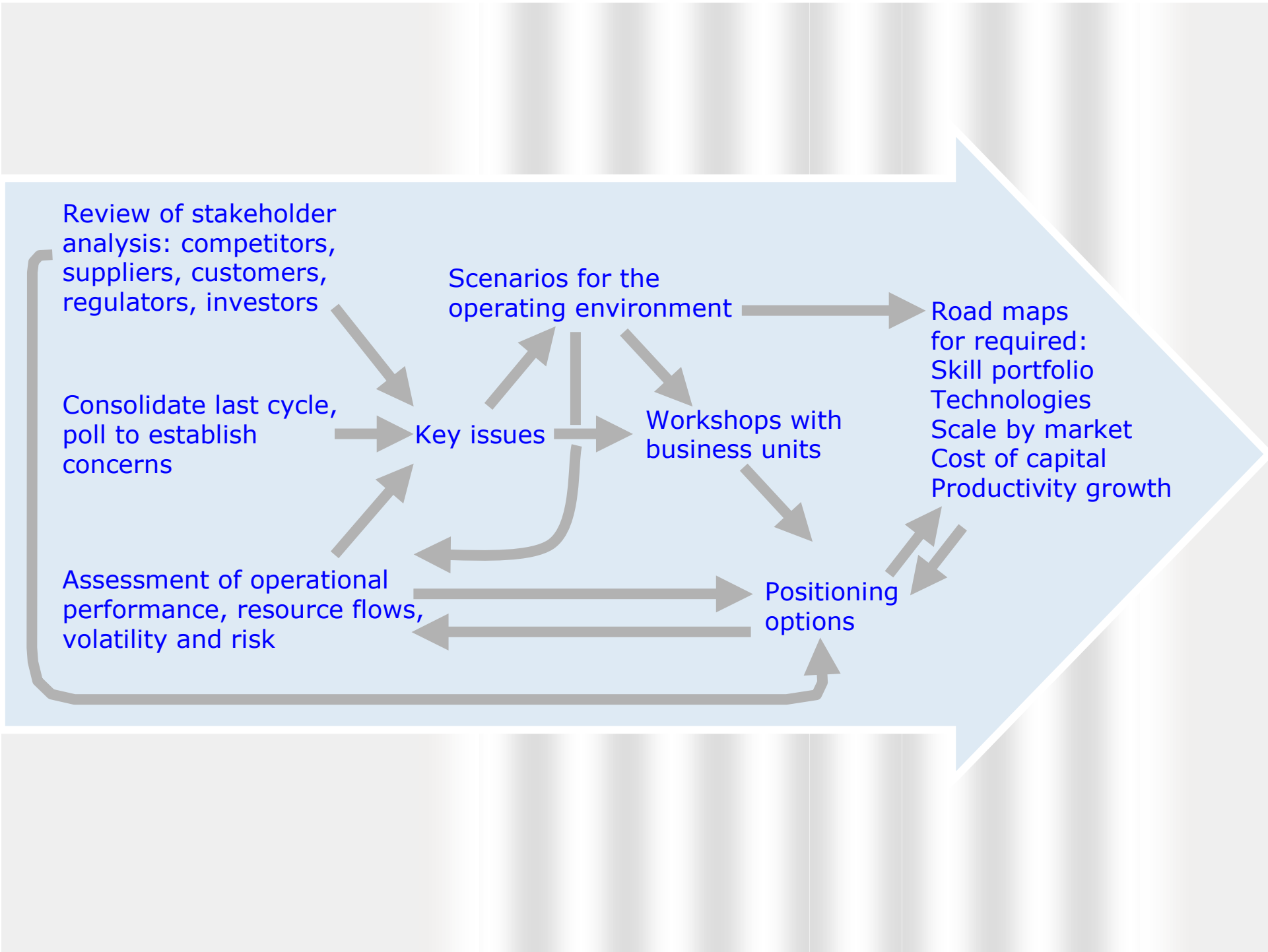


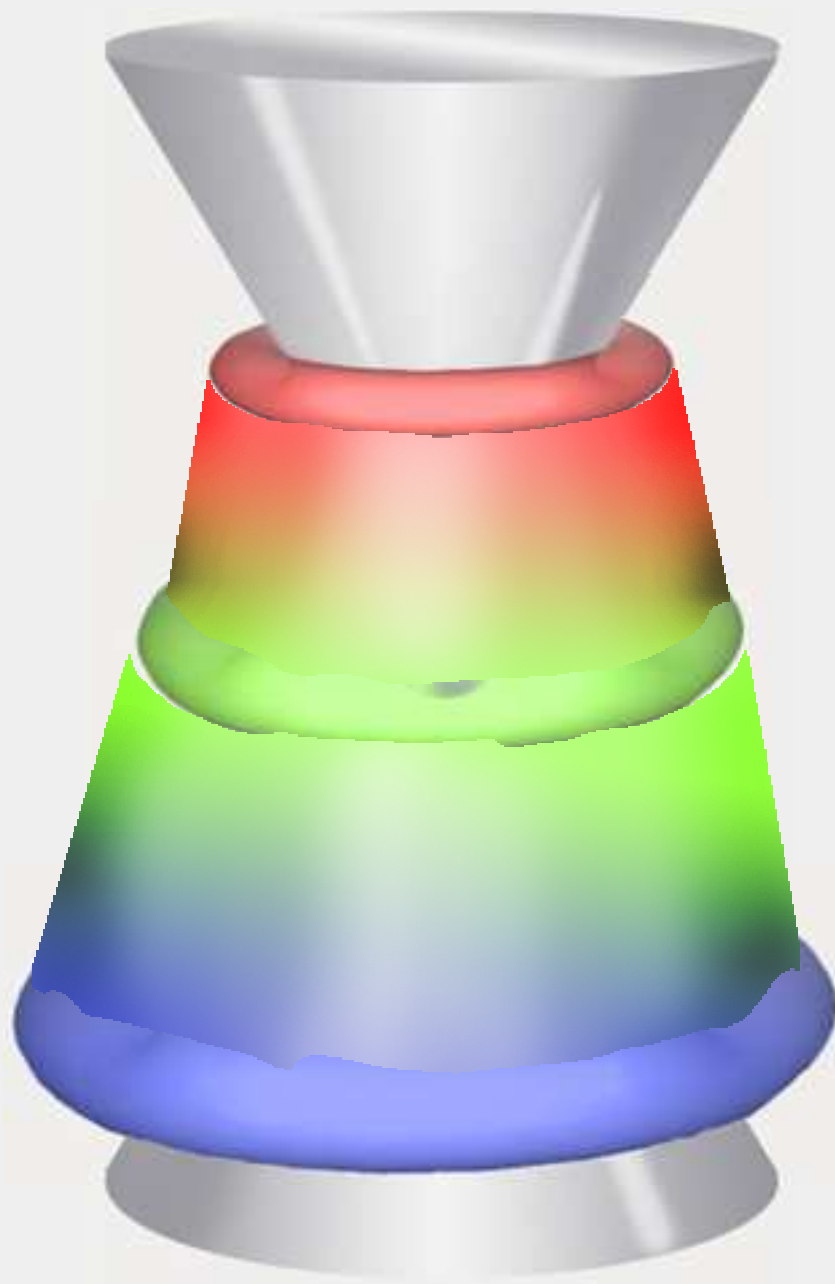
Annual portfolio assessment, biennial options review



Biennial review of the operating environment









.. which is very pretty, but  
it does not tell you how to  
set this up!



## Machinery: basic messages

- There is no “right structure”. Each organisation will be different.
- The important elements need to be organised into processes that are predictable, both in their timing and the quality of their output. These processes need to connect together.
- The processes must touch and connect the three “rings”
- The outcome of the processes must work on and enrich the four basic elements:
  - Insight into how “things work”
  - Values about what the organisation wants
  - Options that point to generic targets
  - Narrative that makes this automatic
- The tool kit is very extensive and there is no correct set of tools to use. Experience tells you what problem you are trying to solve



Genuine innovation  
Purposeful portfolio change  
Productivity improvements

Renewal

- The tool kit is very extensive and there is no correct set of tools to use. Experience tells you what problem you are trying to solve

Good ideas and new potential come from informed minds

**Insight**

Genuine innovation  
Purposeful portfolio change  
Productivity improvements

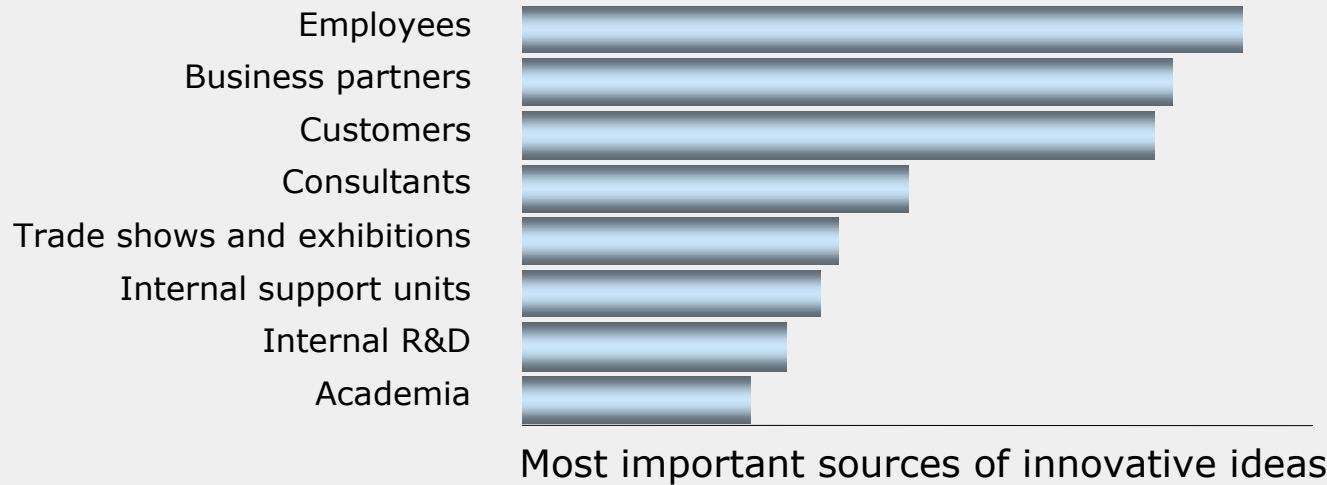
**Values**

**Renewal**

**Narrative**

**Options**

Good ideas and new potential come from informed minds



**Insight**

**Values**

**Narrative**

**Options**

Present and future operating environment

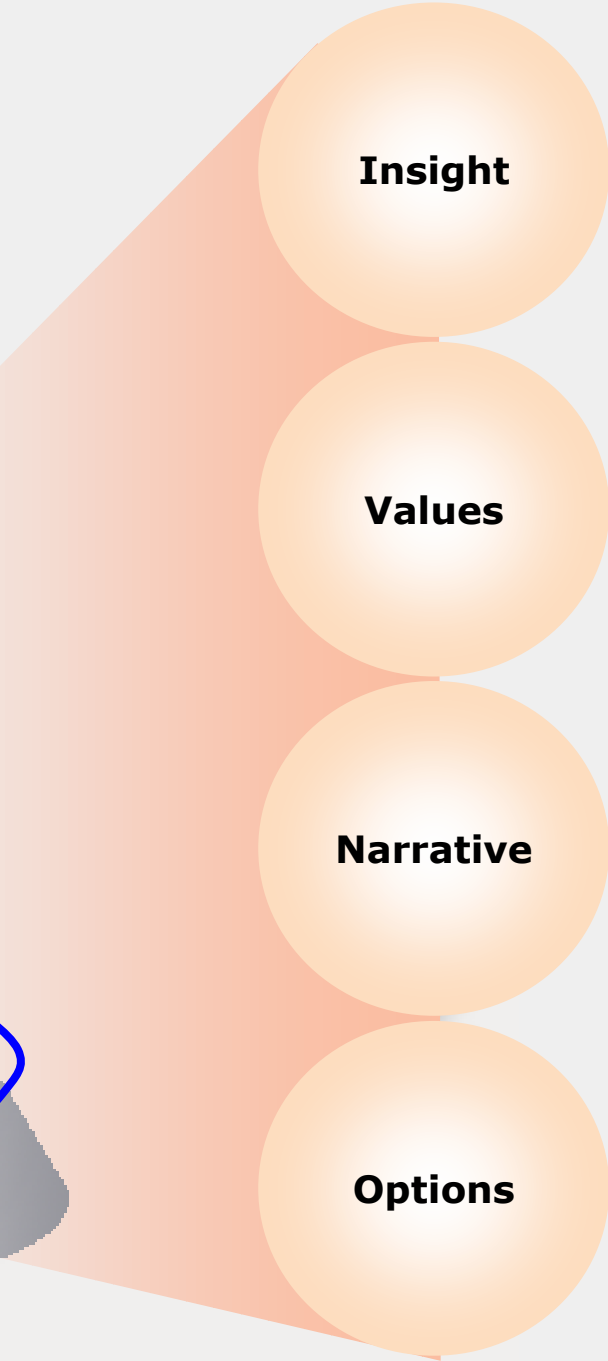
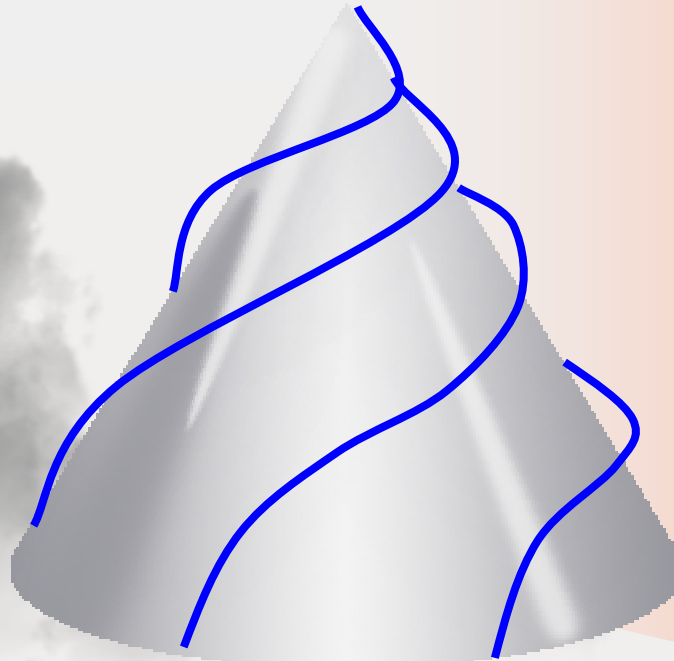
Clearly defined project

**Insight**

**Values**

**Narrative**

**Options**

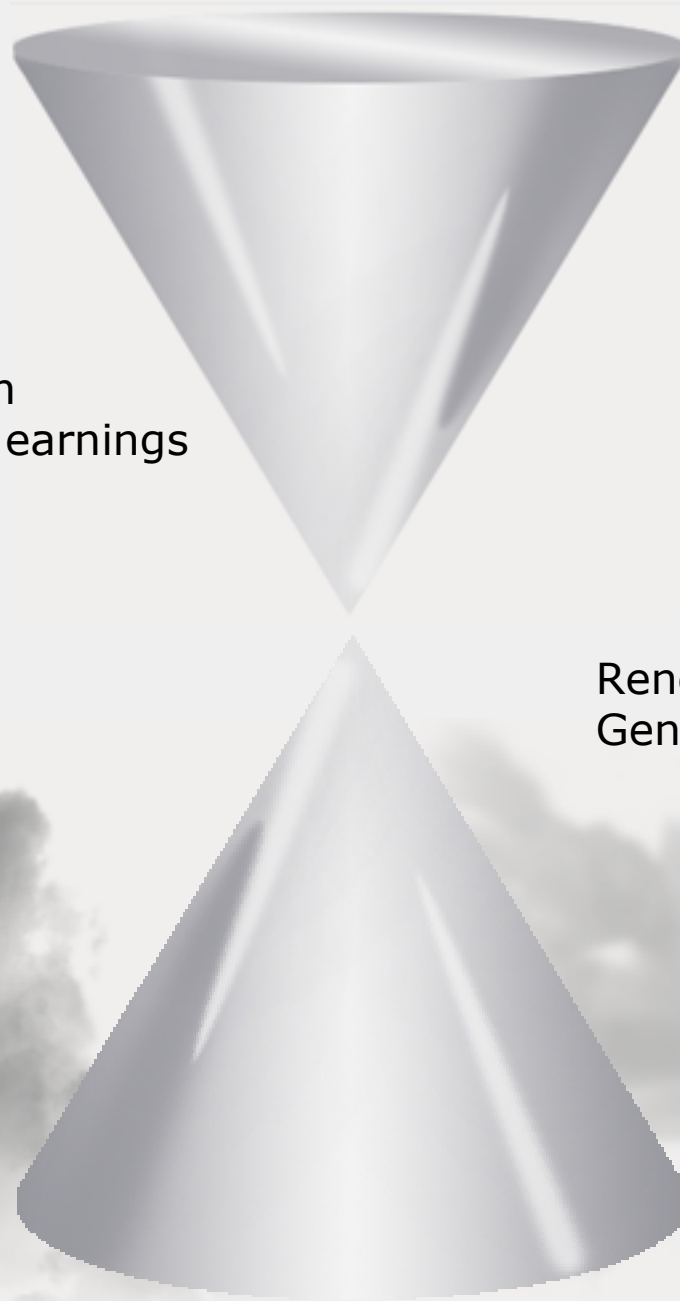


Highly defined  
activities

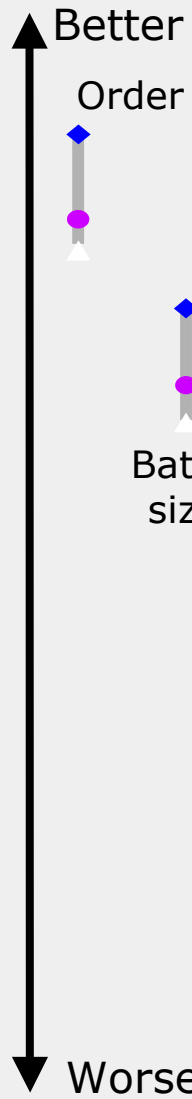
Commoditisation  
Generally lower earnings

Renewal  
Generally higher earnings

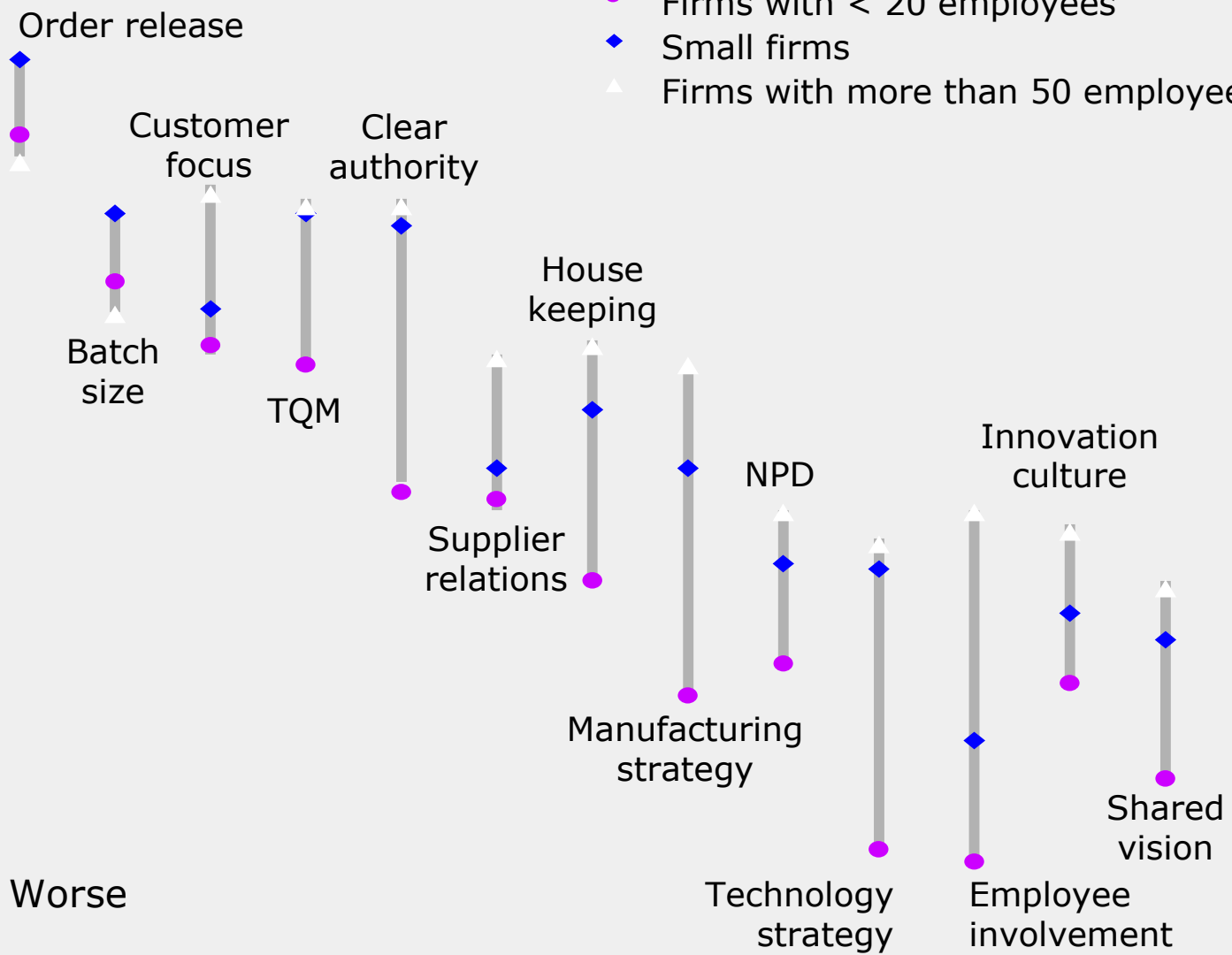
Loose, open  
ended potential



Highly defined activities



- Firms with < 20 employees
- ◆ Small firms
- ▲ Firms with more than 50 employees

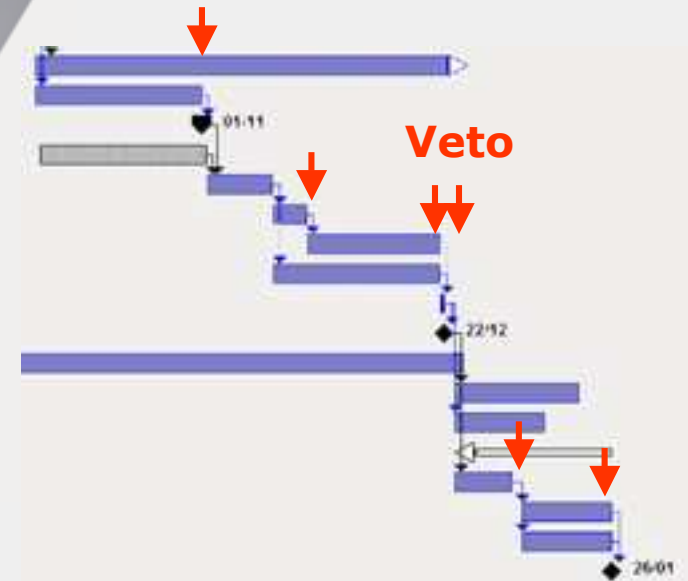
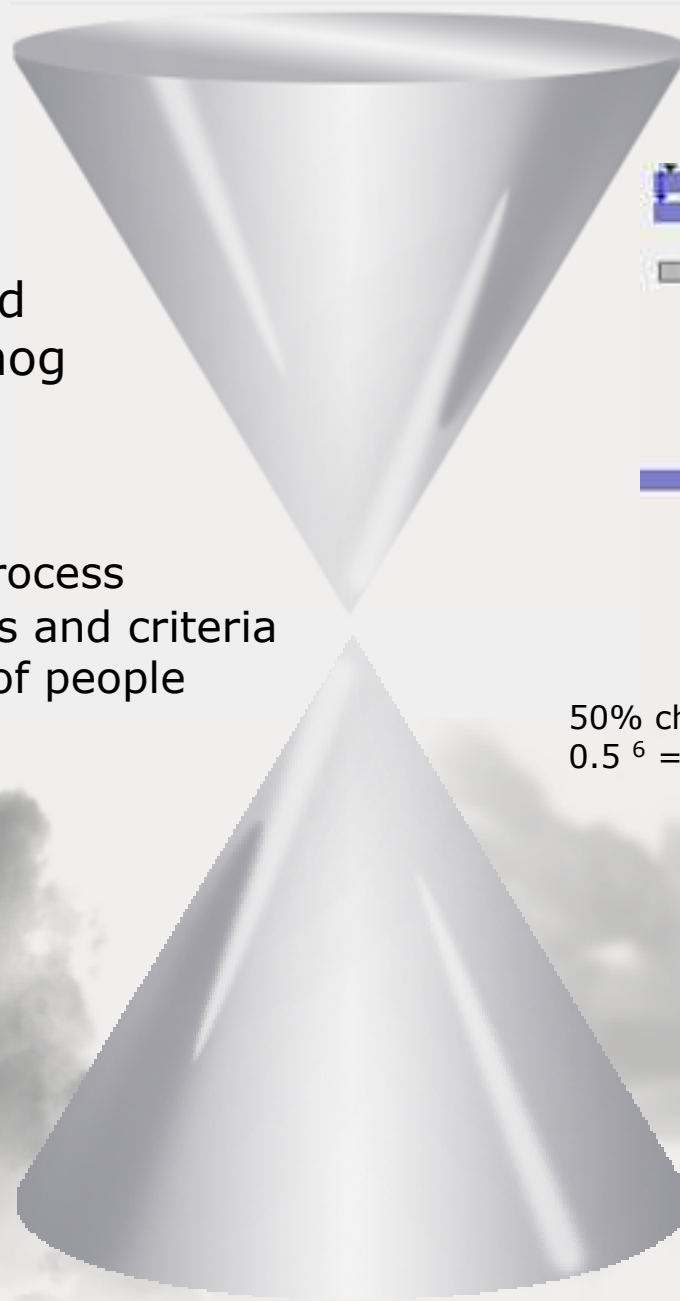


Loose, open ended potential

Highly defined activities

The Fox and the Hedgehog

A multi-stage process  
Different metrics and criteria  
Different kinds of people



50% chance of veto in any one stage means  $0.5^6 = 98.4\%$  chance of being stopped.

Loose, open ended potential

The Fox and  
the Hedgehog



Simplifiers and followers of fashion: shareholder value, core focus, Internet, re-engineering...

Clear targets: defined metrics and no loose ends.

Winning: Hedgehogs are highly competitive and enjoy ranking themselves

Respond to financial rewards and promotion and other forms of increased status

Identify strongly with the organisation as a source of collective strength



90-95%



Do not respond to the same incentives  
Do not see 'success' in the same terms  
Require very different management  
Seldom like each other

Deeply suspicious of simplification and generic solutions.

Loose targets: open-ended work pattern, dislike the metric culture

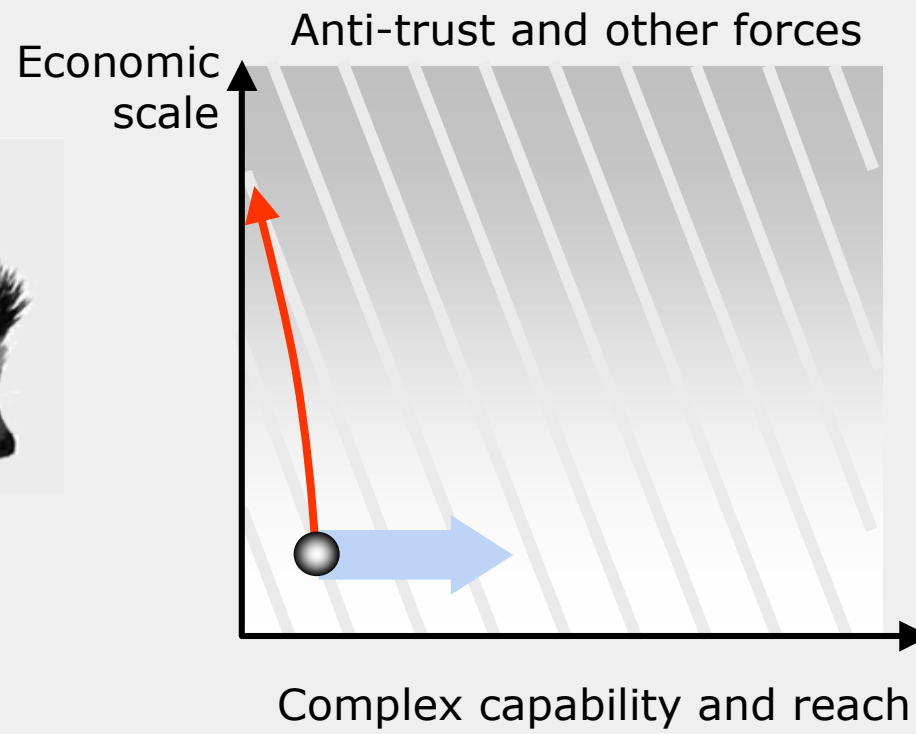
Foxes see others as 'helpful' or useless: little interested in rank or status

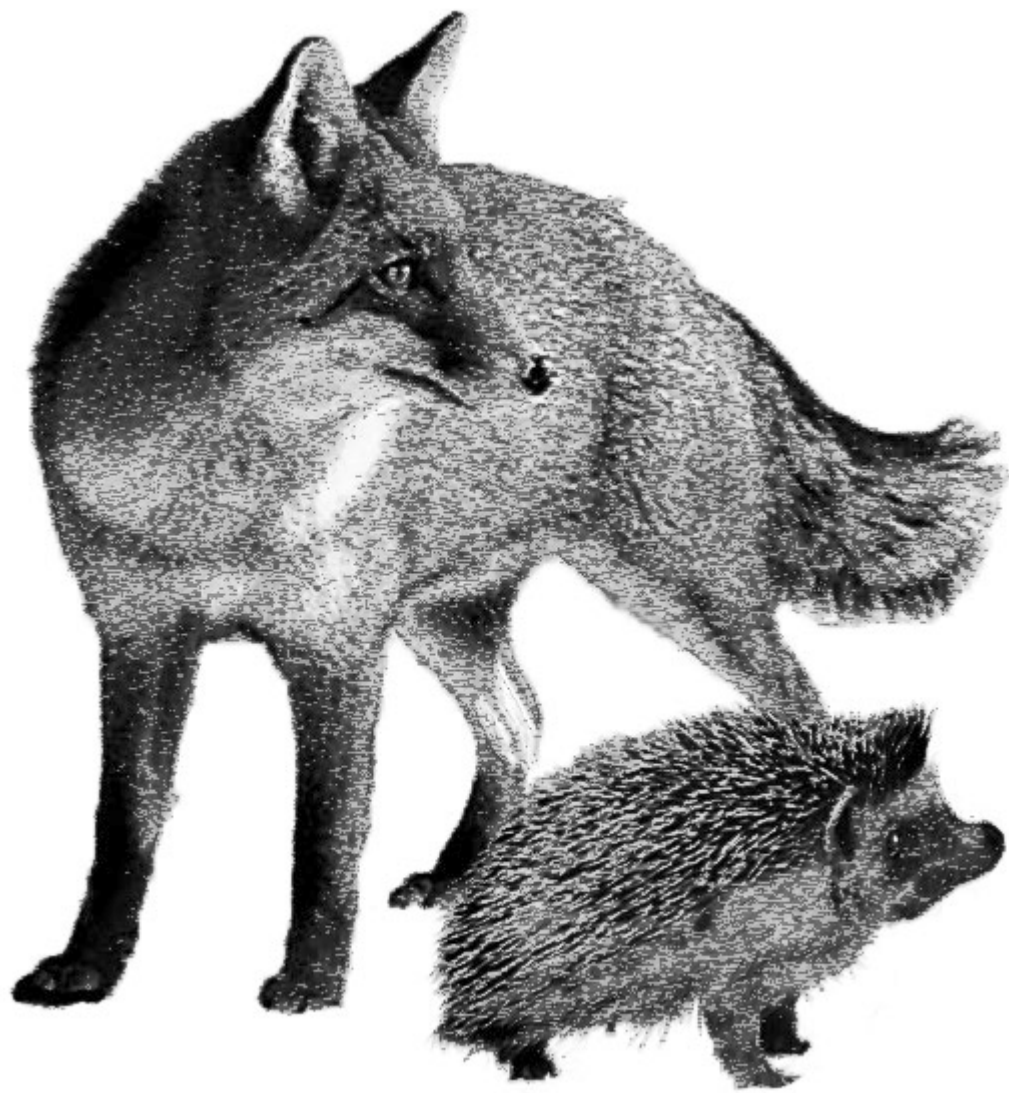
Foxes are motivated chiefly by creative engagement

Pragmatic view of the organisation



5-10%





## What does it mean to “be strategic”?

- To understand what matters: the core reason why the organisation exists
- To know, in general terms, how you want to behave (and not to behave)
- To distil insight and values into options for the future: practical possibilities
- To articulate all of this so that it is accessible to staff, to investors and others
- To set up machinery to keep all of this freshly challenged and usefully current
- To recognise that different processes require different criteria and rewards
- To develop cadres of individuals who excel in the looser, less formal Fox mode
- ... And to keep focused on cost cutting, rationalisation, profit and cash flow

## What does this mean to technology managers?

- There are activities that should be done “anyway”: cost, quality and risk issues
- However, the exciting issues that open potential demand strategic engagement
- Strategy cannot directly task technologists unless they have worked to create it
- Research into good questions is at least as important as research into answers
- Personality types matter. So does culture, training, motivation and engagement
- Systems matter: complex and political material needs its proper machinery

Technology managers have ideal skills to design such systems.



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