15.912 Technology Strategy
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Organizational Dynamics

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What went wrong at Medtronic?
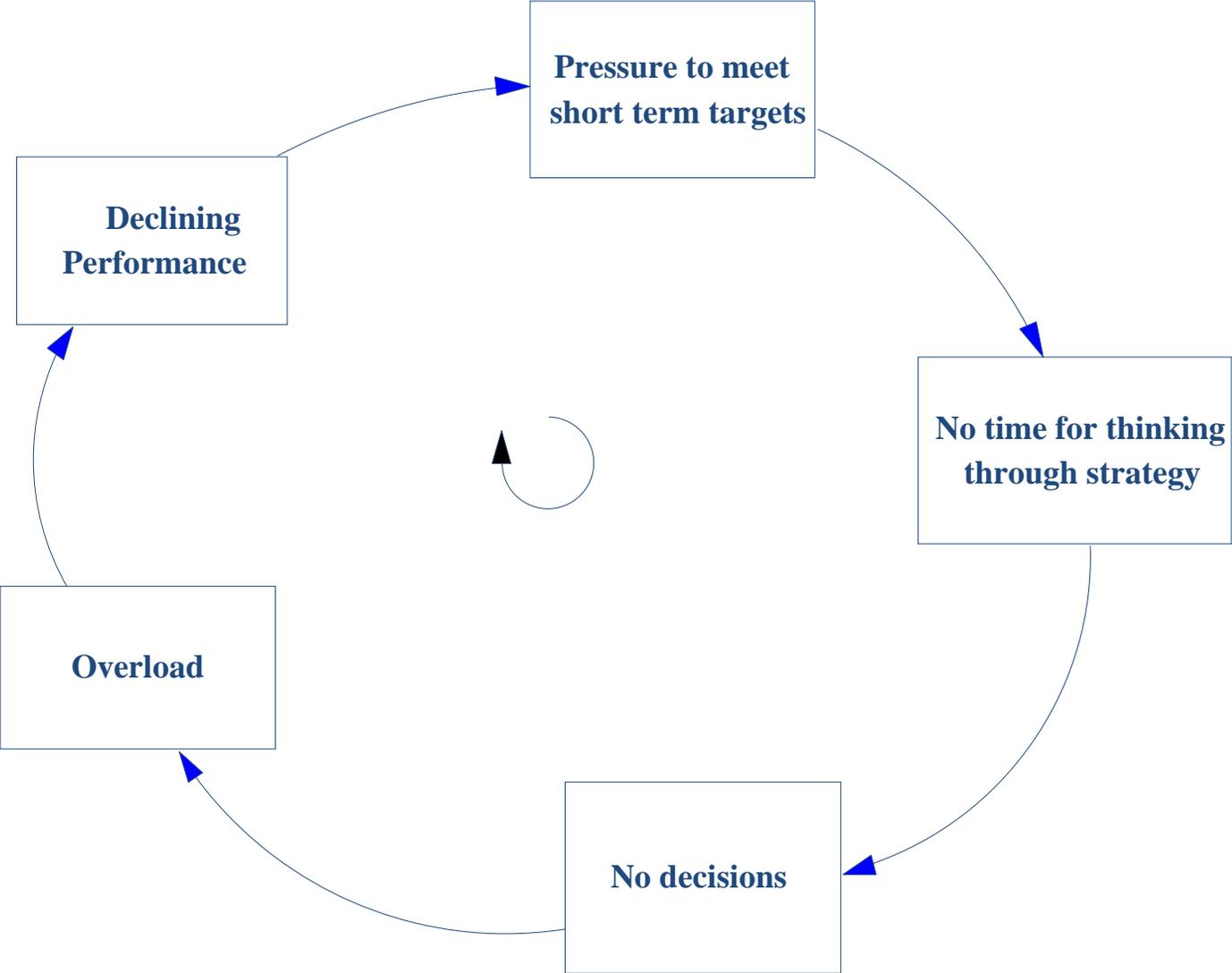
Overload (A Log Jam)

Overcommitment destroys productivity

Average Value-Added Time on Engineering Tasks (y-axis): 0% to 100%

Number of Projects per Engineer (x-axis): 1 to 6
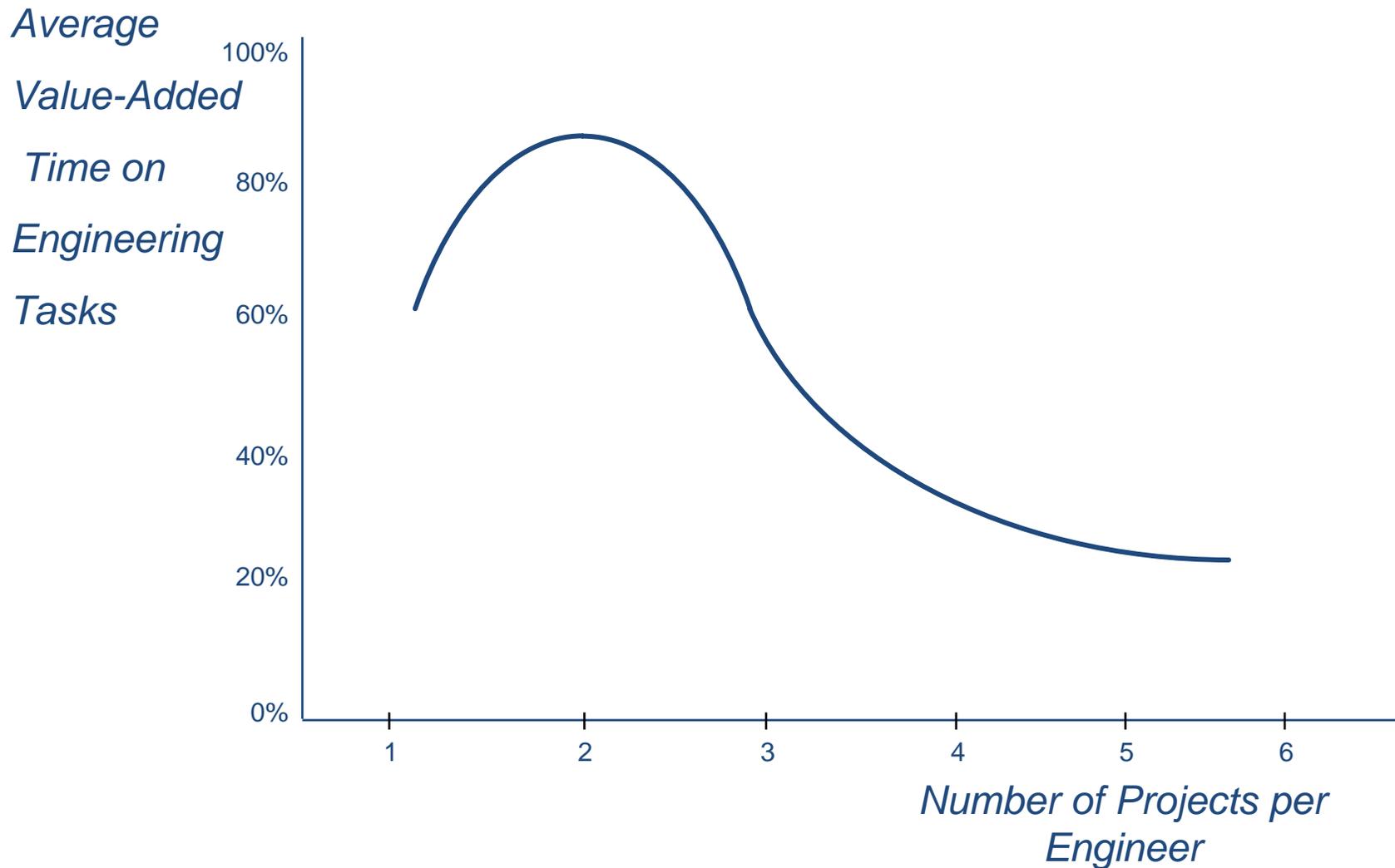
…and shifts attention away from early stage work

Phases

Knowledge Acquisition | Concept Investigation | Basic Design | Prototype Building | Pilot Production | Manufacturing Ramp-Up

High

Index of Attention and Influence

ABILITY TO INFLUENCE OUTCOME

ACTUAL MANAGEMENT ACTIVITY PROFILE

Low
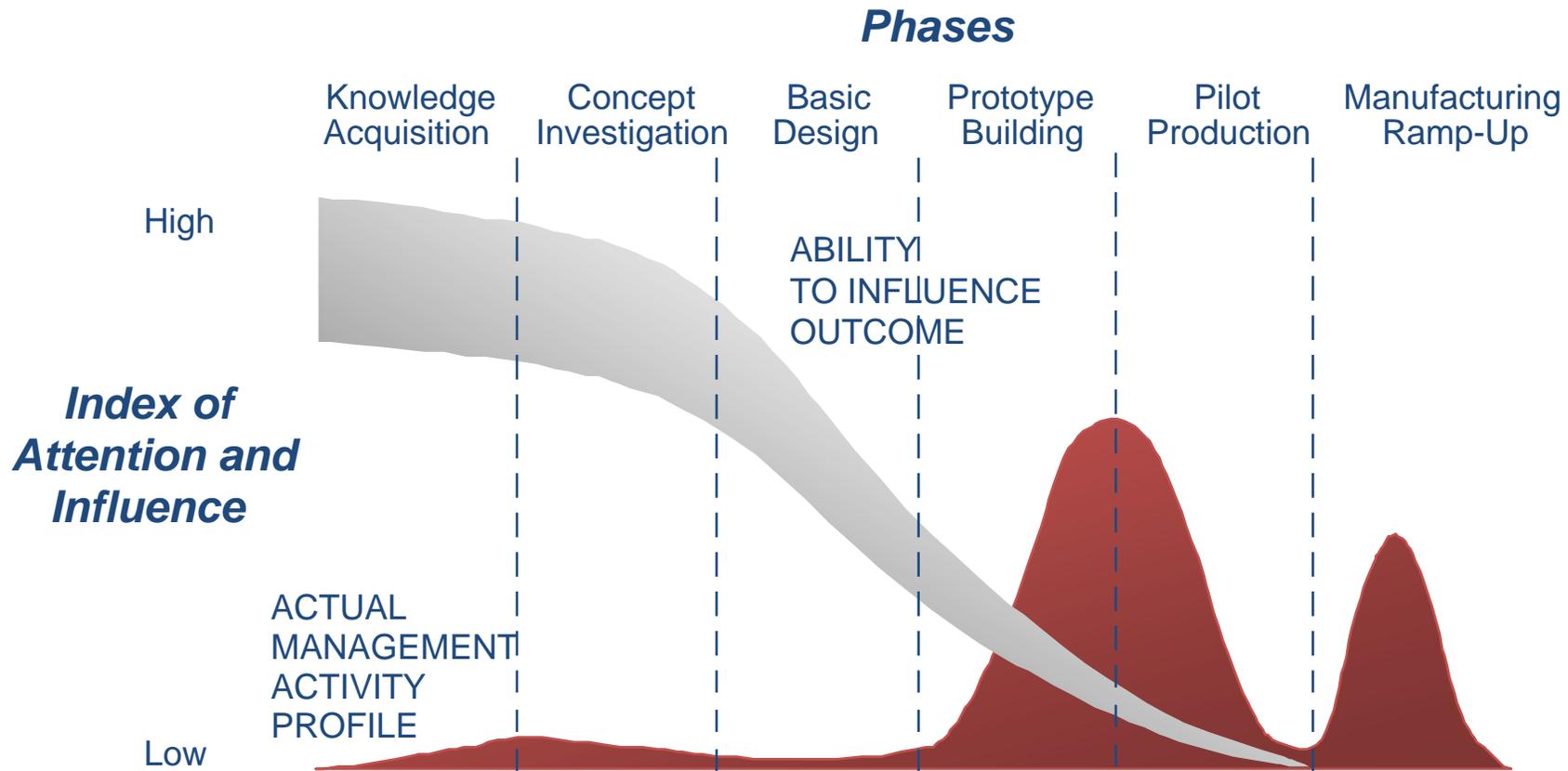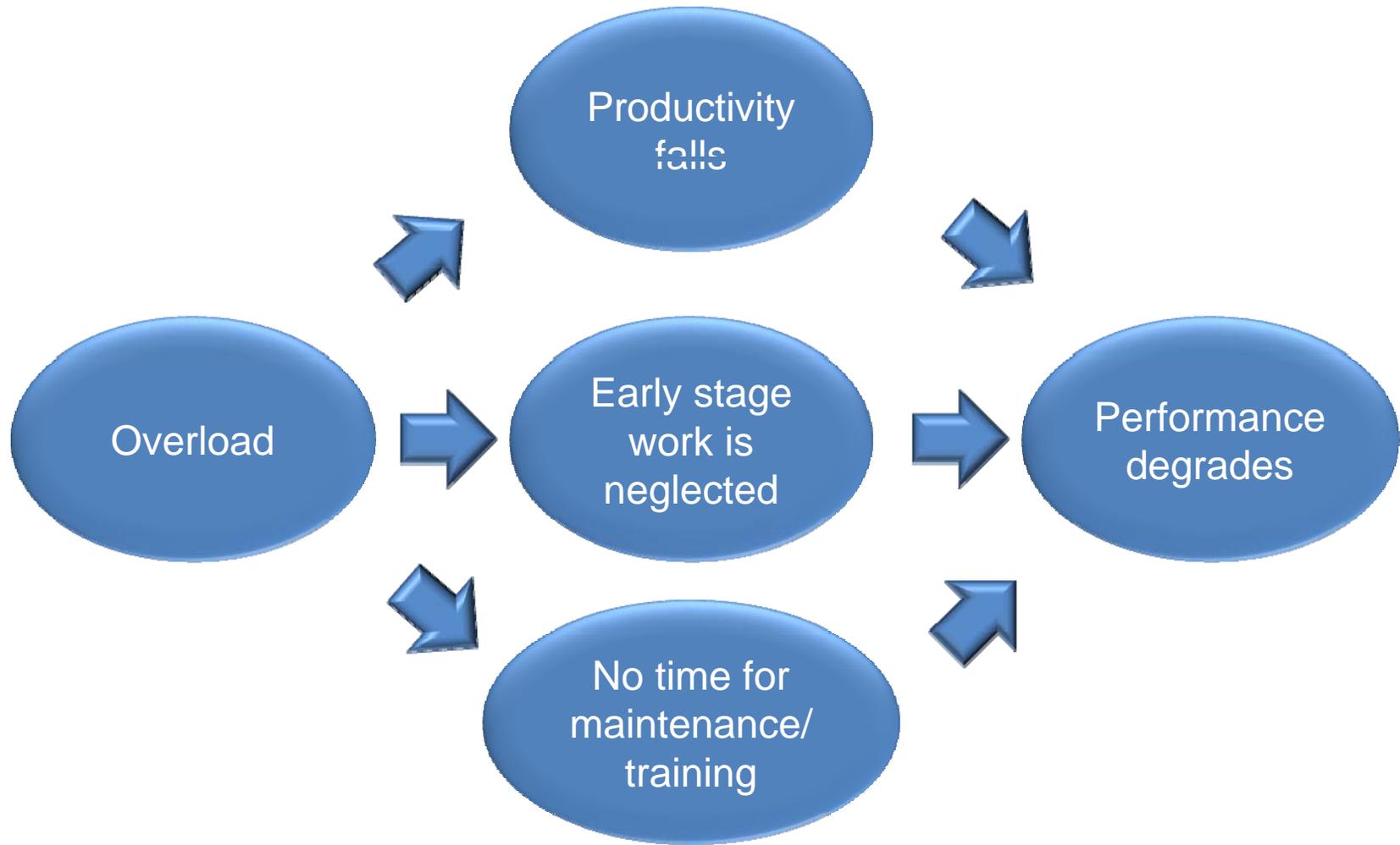
Exercise: Overload at the Individual Level

- Pick an aspect of your life that feels overloaded.
  - Can you trace the effect on your performance?
  - Why are the underlying causes of this overload?
  - What interventions can you see to get unstuck?

- Example: Jason and Courtney's Wedding-Planning
  - Take on too many detailed tasks -> make errors on these tasks -> have to repeat tasks or lose deposits!
  - Underlying causes:
    - thinking it has to "perfect"
    - Defining "perfect" as an increasing number of detailed choices
  - Invest in Wedding-Planning Capabilities:
    - learn to outsource to relatives (requires upfront investment in communication with these relatives!)

So why don't we fix it?

Part 1
The usual "solutions" nearly always make things worse

When performance is low, what do managers do?

- The Fundamental Attribution Error (dispositional bias)
  - Much research suggests that in the situations we study, people are predisposed towards blaming problems on other people rather than on the systems in which they live and work

- And, if managers make the FAE how do they respond?
  - More production pressure
  - More oversight
    - "I knew my project was in trouble when I had to give hourly updates"

What happens next?

- If managers respond with more oversight and more production pressure what feedback do they get?

- In the short run….

- In the long run…

The "Self-Confirming Attribution Error"

- When managers make the FAE, their subsequent interventions provide feedback confirming their initial attribution
  - More Production Pressure:
    - Leads to a short term improvement as people focus on production at the expense of capability
    - Leads to a long run degradation as capability declines
  - More Oversight:
    - Creates more work, thus exacerbating the smarter/harder trade-off and the "work is not going to wait"
    - Eventually, forces people to take short cuts, which when discovered provide more evidence confirming that the people are the problem.

Consequences of Self-Confirming Attribution Errors

- Measurement systems become increasingly short-sighted and restrictive
  - "...supervisors were evaluated on labor performance on a daily basis."
- Penalties for missing targets become more severe
  - "...supervisors who missed their targets knew they were going to get 'beat up' by their managers."
  - "...the only thing they shoot you for ... is missing product launch"
- Line workers invent new methods to insure they are never penalized.
  - "It didn't take long for them to develop a buffer in front of their line so that if the schedule called for 700 and their line was fully utilized at 800, they could still run 800 units every day, and still make their labor performance."
- The organization becomes increasingly focused on compliance
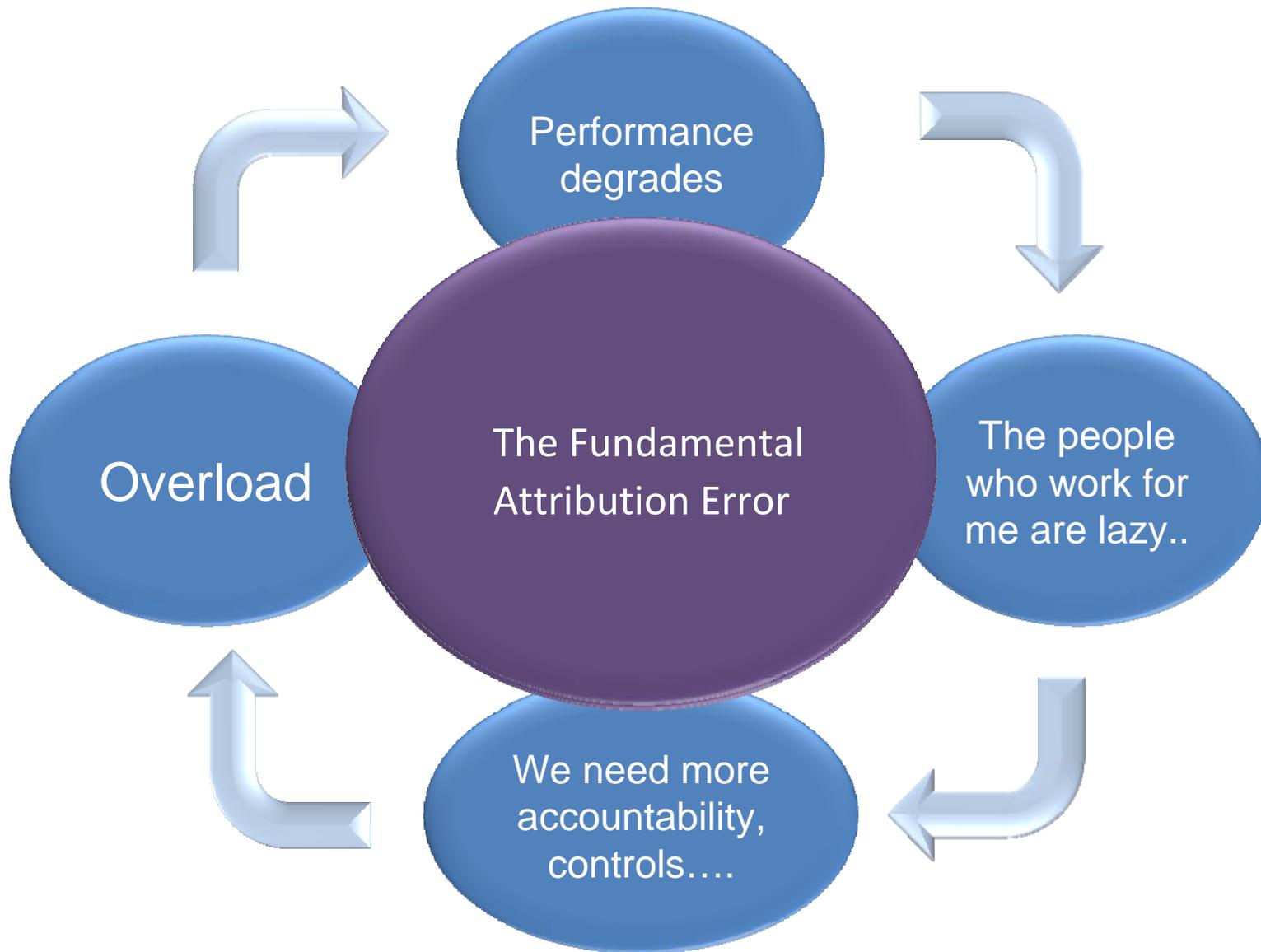
Why they don't think much of you either…

- When firms get caught in the capability trap and the self-confirming attribution error, what do senior leaders do?
  - They spend a lot of time on fighting fires, providing "oversight", and "fixing" specific problems
  - And very little time on developing strategy, setting priorities, and thinking about the system

- Paradoxically, this approach to leadership increases stuckness
  - Without clear priorities you can't kill project 26 (since it's a good project)
  - Senior leadership "oversight" creates more work for those closer to the front line and often feels ceremonial and disconnected from the real work
  - Leads to initiatives that are inconsistent with the underlying time constants of the operating sites

Why is it so hard to kill project #26?

- It's a "good" project!
- Good managers can meet stretch goals

  (and I'm a good manager)

- Making difficult decisions would imply that we:
  - Had a strategy that we could use
  - Could talk to each other in productive ways

- *It's very hard to do either when you're overloaded*

My people are lazy

We're not so bright, either

Overload

!!
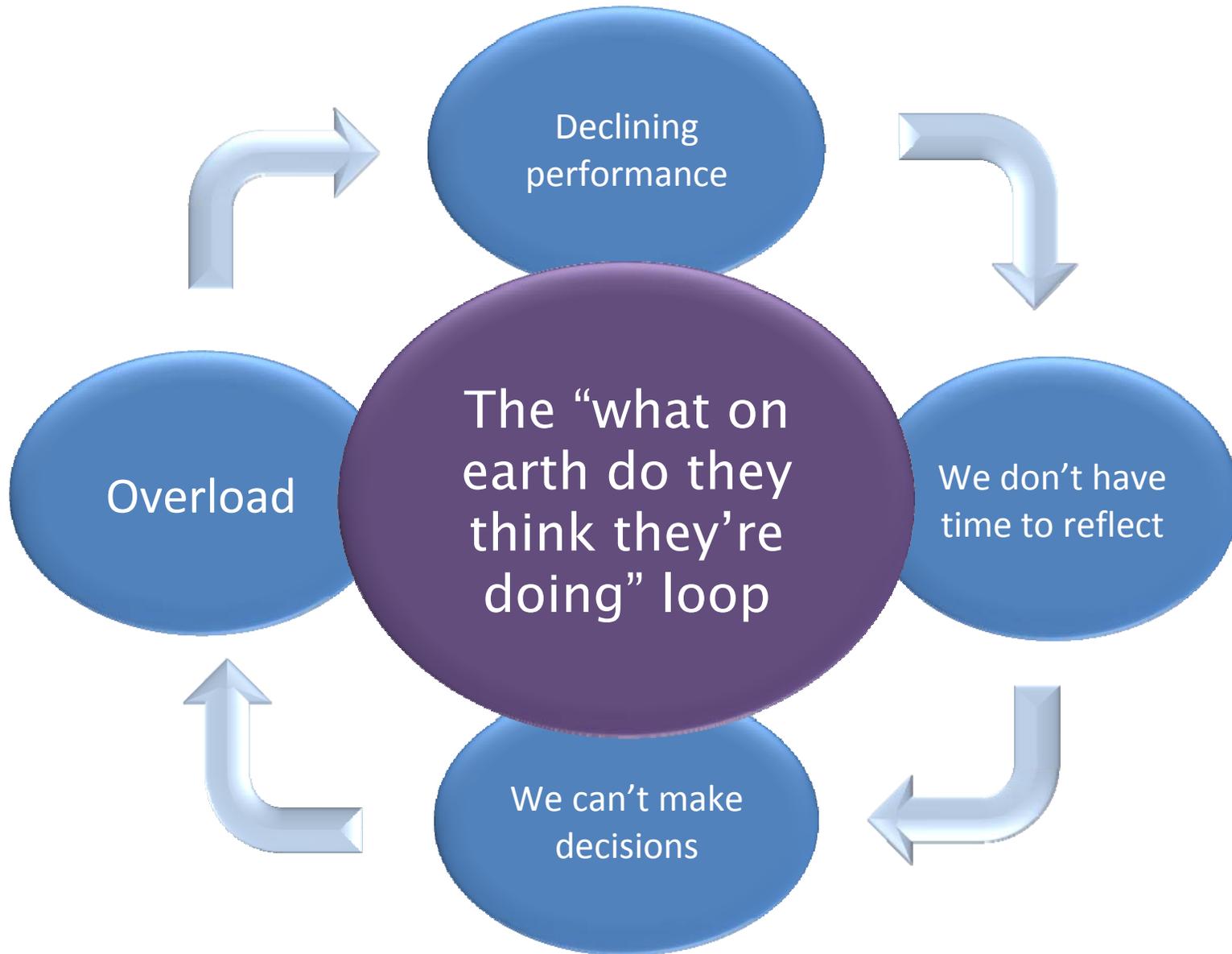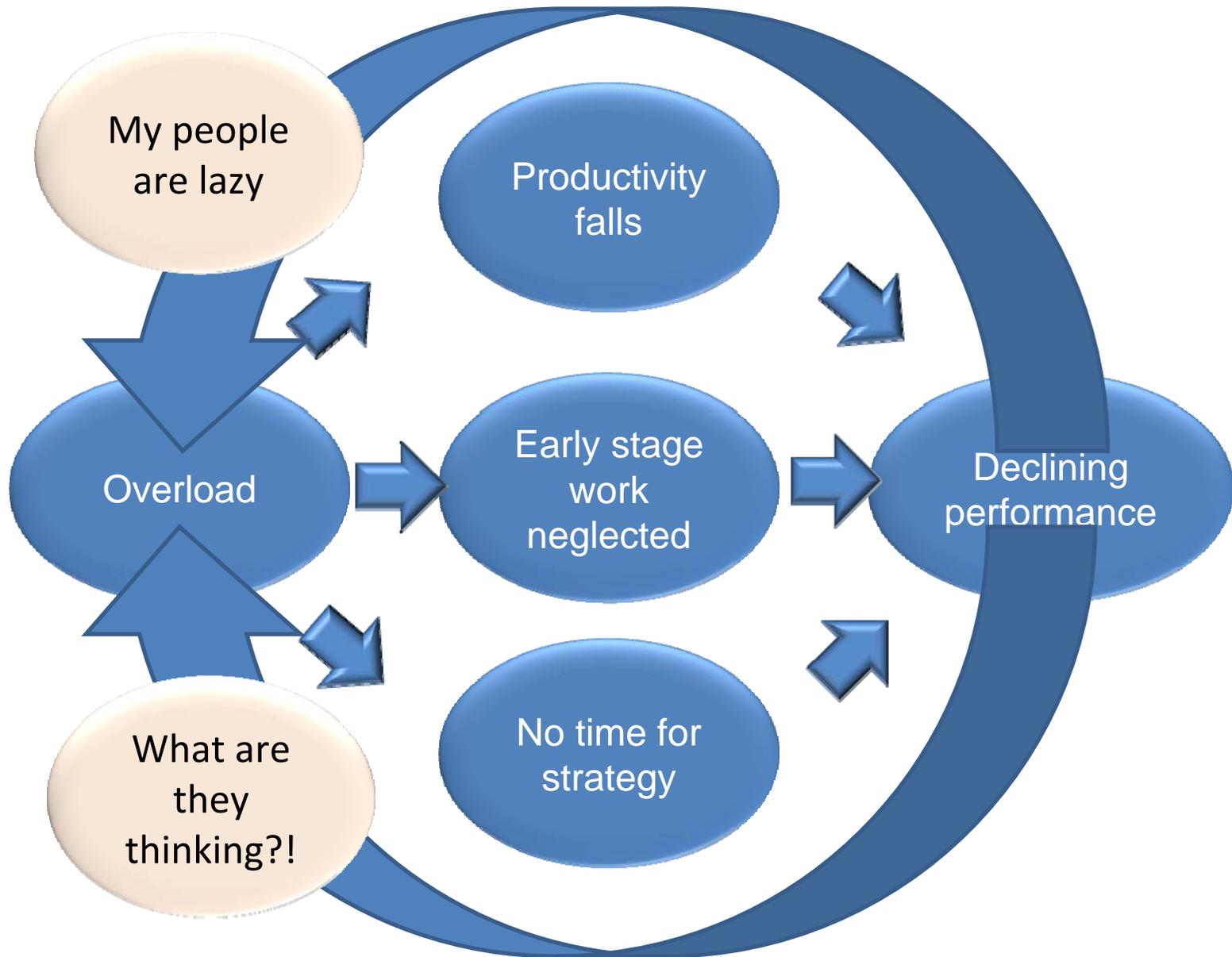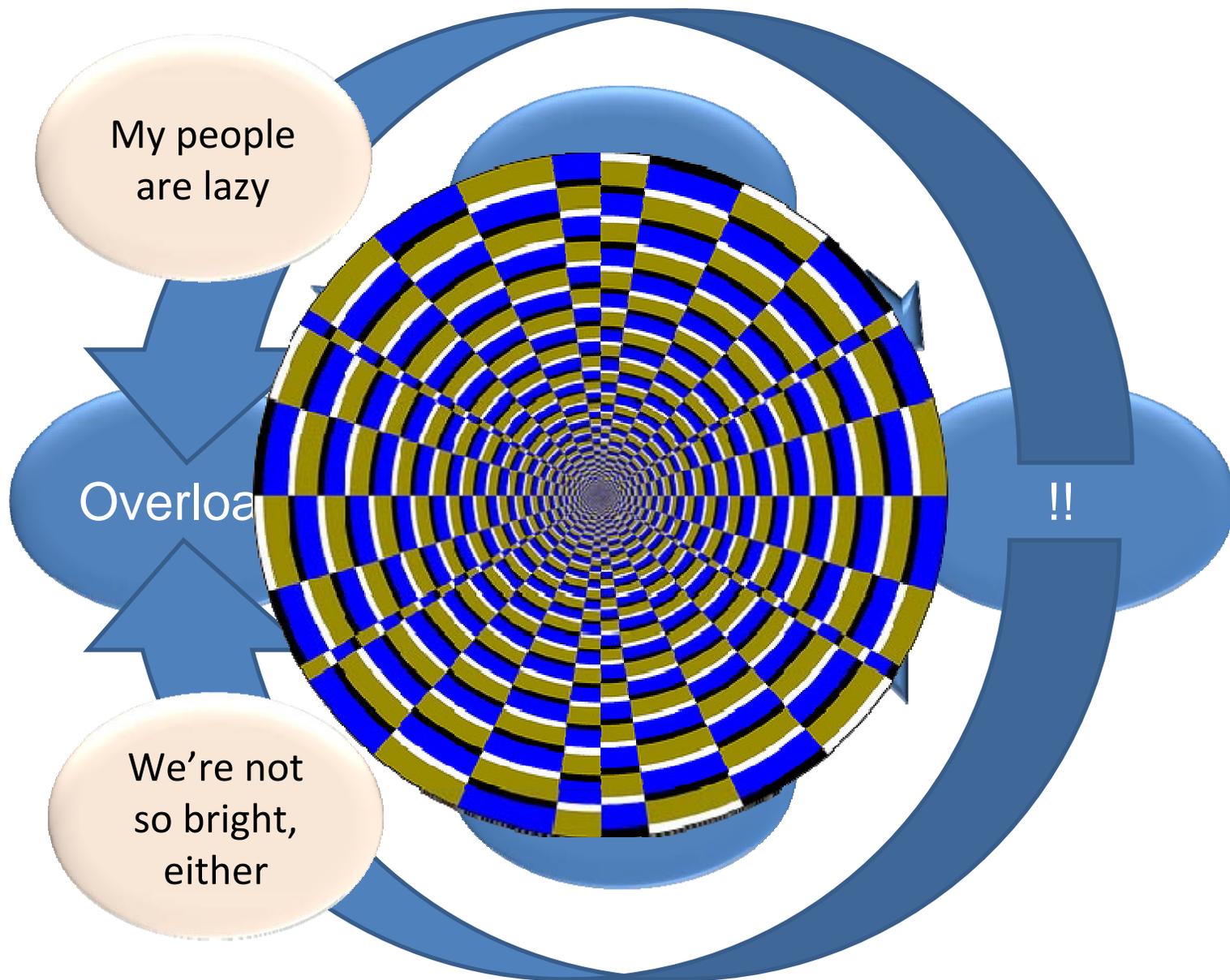
Vortex image by lrargerich on flickr.

Part 2
Addressing overload will hurt (short term) performance

The central tension...

Fix things right now, or work on building longer term capability?

Work smarter or work harder?
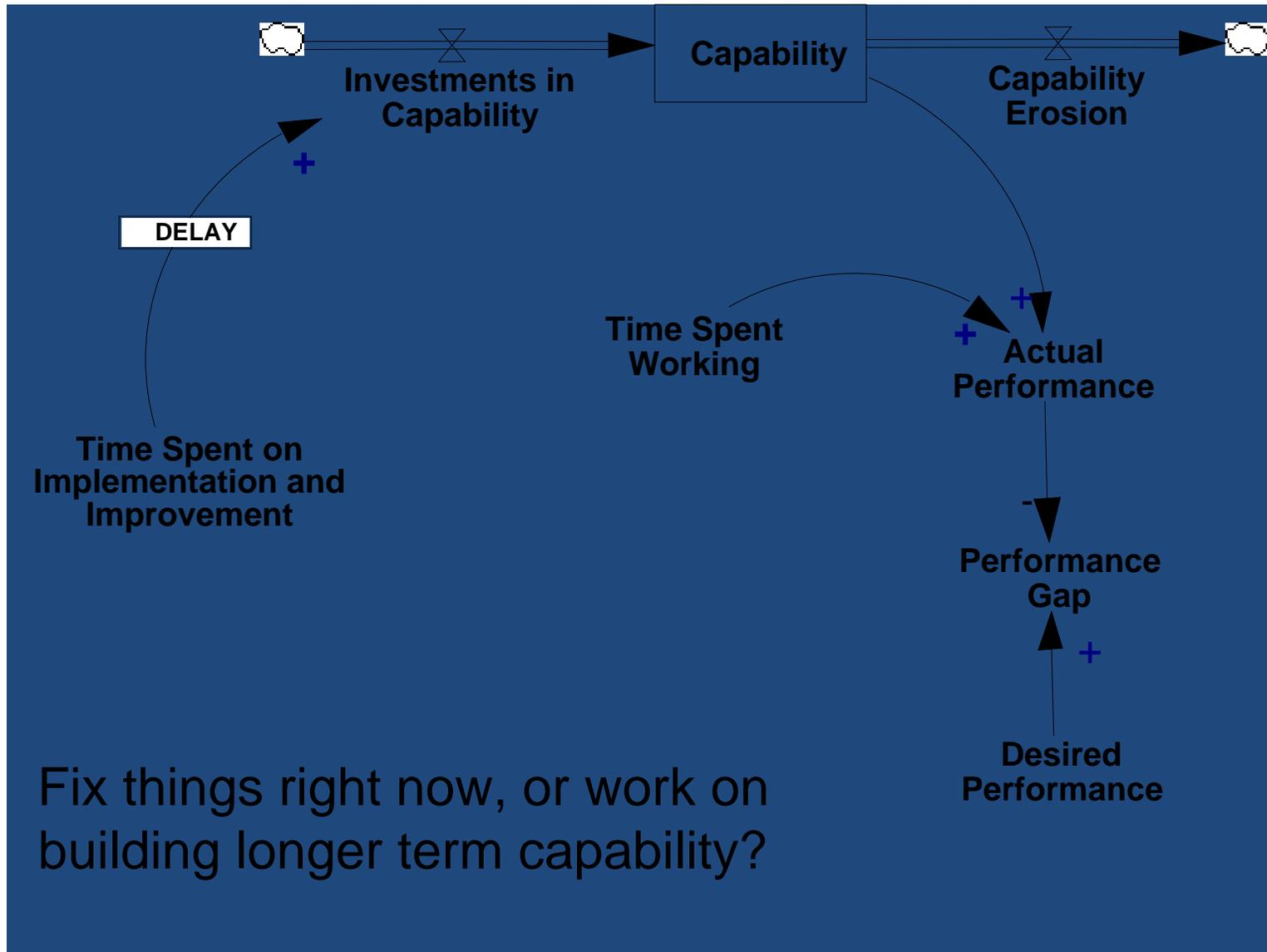
Working harder yields "better before worse"

Effort

Time Spent Improving

Time Spent Working

Time

*

Capability

Time

=

Actual   Performance

Time
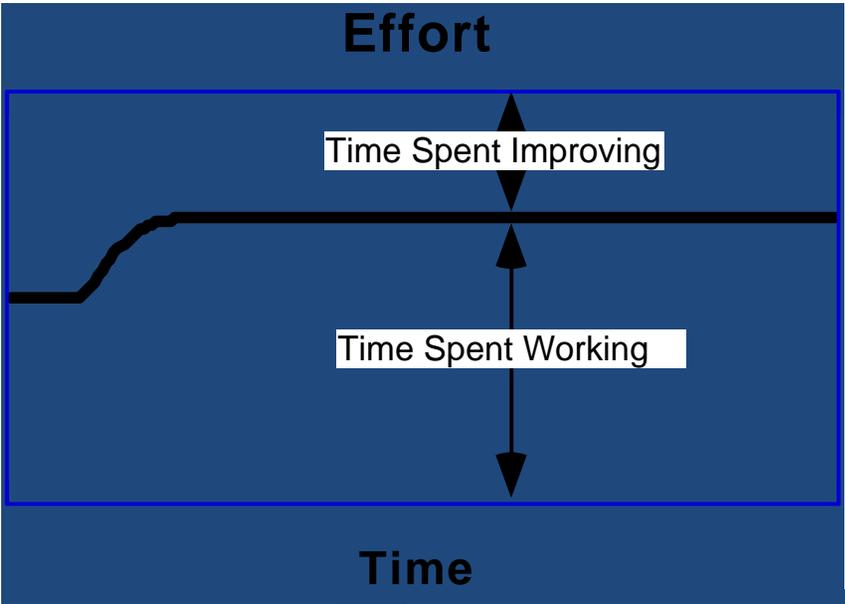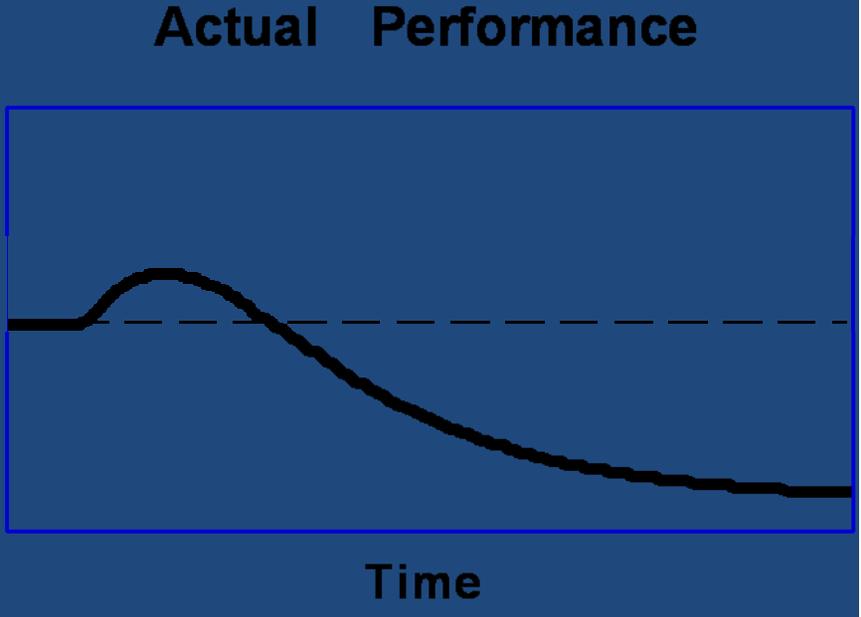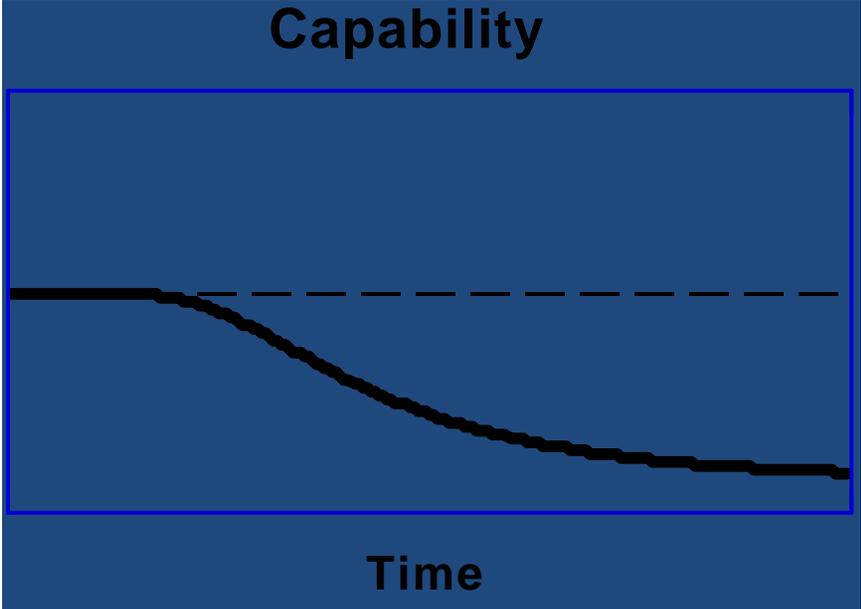
Working smarter yields "worse before better"

Effort

Time Spent Improving

Time Spent Working

Time

Capability

Time

Actual   Performance

Time

=
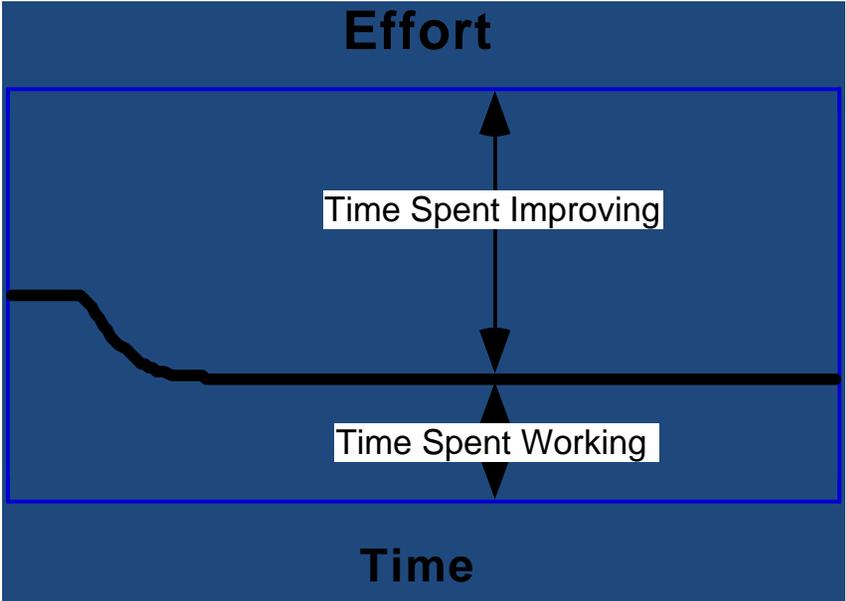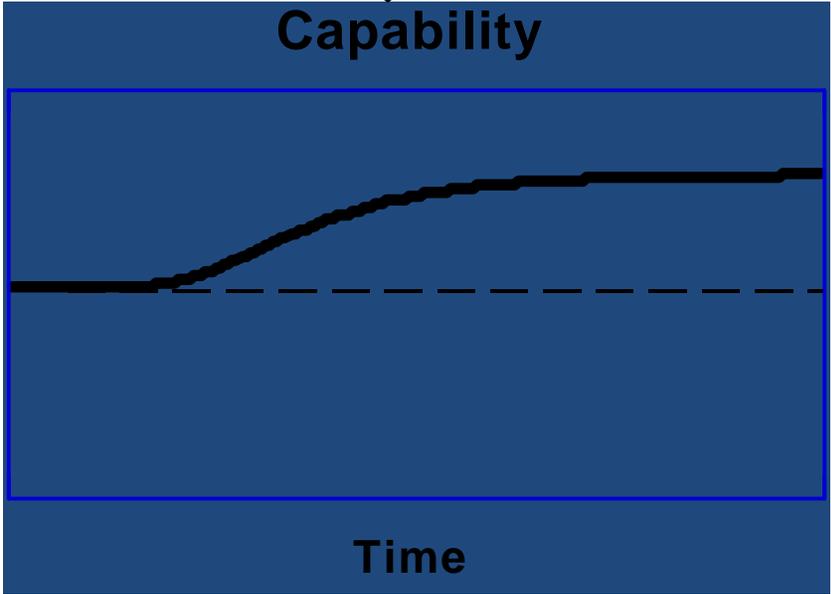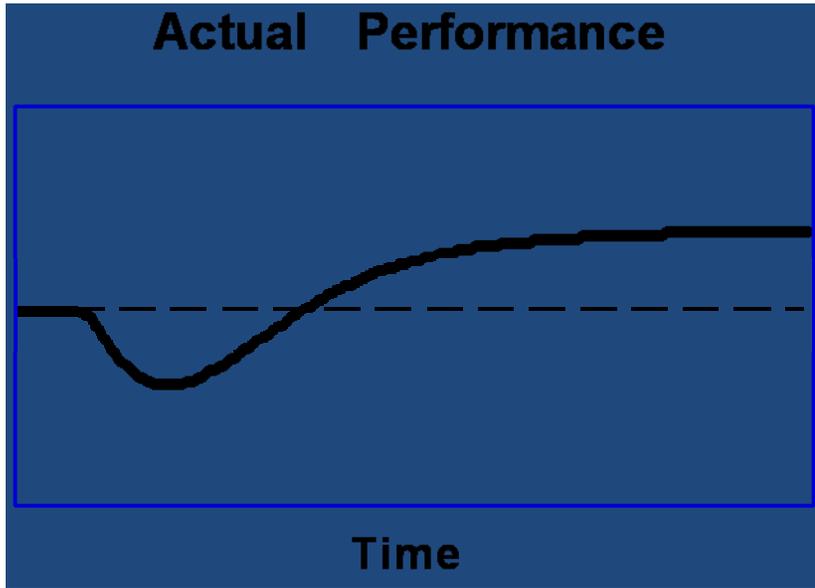
Why is it so hard to deal with worse before better?
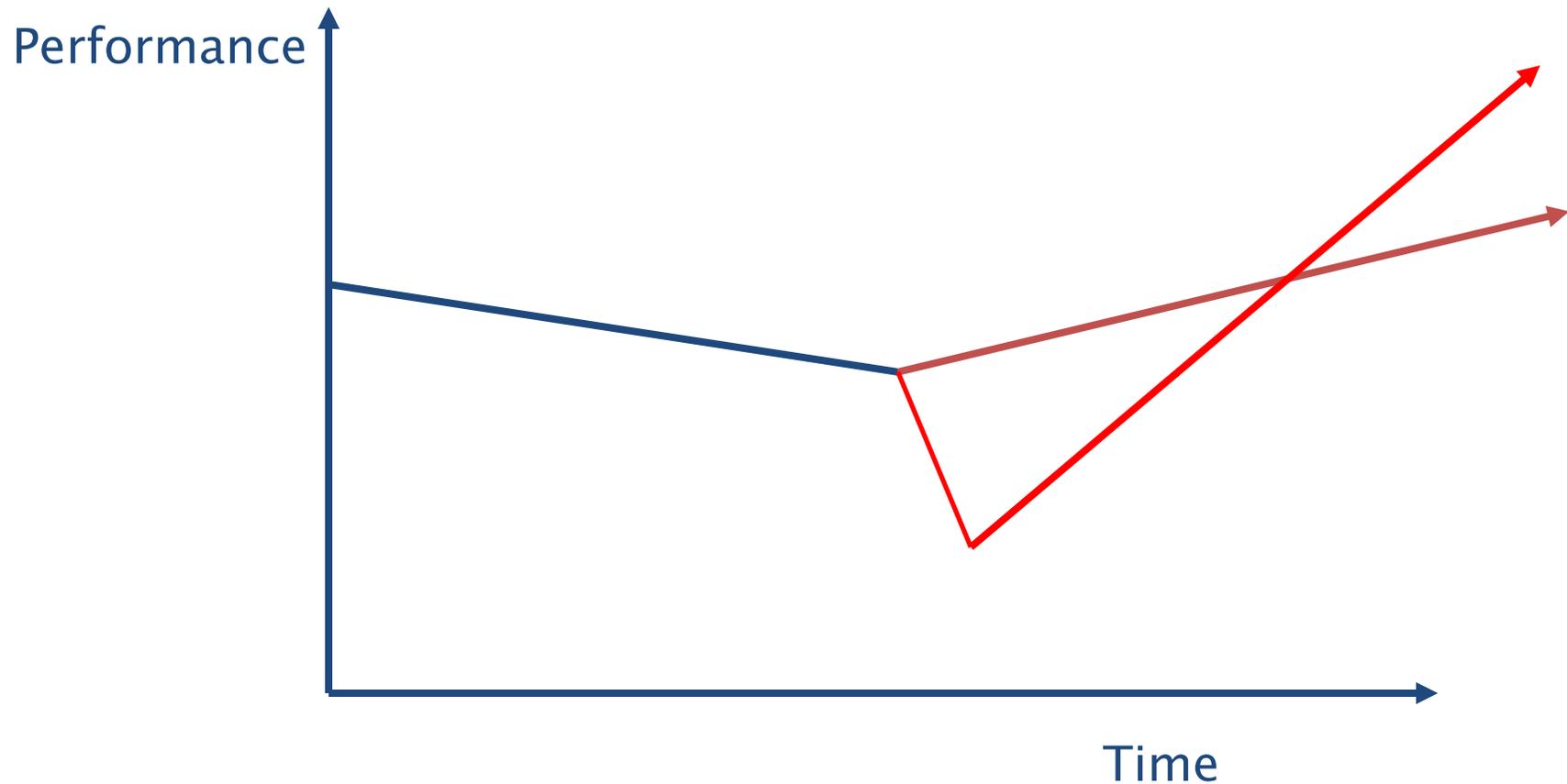
What can be done?

Getting Unstuck: 4 Elements

- Manage capacity
  - Complement "bottom up" with "top down"

- Manage worse-before-better
  - Focus on eliminating defects with the best cost/benefit ratio

- Change your habits around problems
  - Respond to a screw-up as though it were a capability problem

- Have a clear strategy and live by it

Manage capacity

- It is hard to avoid getting stuck if you take on more work than you have the capacity to do
  - Capability development and defect elimination inevitably suffer ("just do it" doesn't)
- Most organizations try to do this (if at all) with a "bottom up" approach
  - Start with all the work you want to do
  - Estimate resources requirements
  - Add it up and cut everything that falls "below the water line"
- While necessary, this rarely works on its own
  - Individual task estimates are notoriously unreliable
  - We have a strong psychological tendency to assume that everything will proceed according to the "best case"
  - It is very easy to say "we can make space for one more"

The Top Down Approach

- Keep good records of what you accomplished last year (or quarter)

- Compare what you did last time with what you are planning on doing this time

- If you are planning on doing more this year than last you better have a good story for why this is feasible
  - Its not unusual for these to be off by more than a factor of two
  - Harley-Davidson made huge progress just by recognizing that they could not do more than one big project a year

Manage Worse Before Better

- Pick the capability investments and defect elimination projects that have the biggest bang for the buck

- Start small and do lots of little projects

- Make sure you reinvest some portion of each success in another project

Change your habits around problems

- We all make the Fundamental Attribution Error and suffer from its consequences. The trick is to change your habits around how you respond to problems.

- From a manager in the most successful initiative Nelson ever studied:

  There are two theories. One says "there's a problem, let's fix it." The other says "we have a problem, someone is screwing up, let's go beat them up." To make improvement we could no longer embrace the second theory, we had to use the first.

Have a clear strategy and values and live by them

- ## For the people that you lead:
  - Spend time on clearly articulating your priorities in concrete ways; operational examples are key!
  - Make it very clear what is supposed to "fall off the table" when people are in a resource crunch; they are just as prone to over-committing as you are
  - Praise them like crazy when they make the difficult decisions

- ## For the people that lead you:
  - Ask for clear priorities and don't continue the conversation without them
  - Don't sign up for more than you can do (even if you are pushed)
  - Escalate when you are being pushed off your agreed upon values and strategies with concrete examples and data (pay now or pay later)

Develop the ability to have real conversations

- "This would only work if we told each the truth, wouldn't it?"

- ...this requires having conflict. Intriguing research shows that top management teams with moderate conflict have high performance than those with no conflict.

- More to come on this in a few slides.

Group Exercise

- Pick an example in a case we've covered that sounds "stuck"

- Describe how it is stuck, and how it stays stuck
- Develop a straw plan for getting unstuck:
  - What projects/activities are you going to cut or postpone to make space for improvement?
  - What defects or capabilities offer the biggest bang for your limited improvement resources?
  - Where are going to run the screw-up experiment?
  - Are your strategy and values in good shape? Do your actions match your statements?

Overload Summary:

- Manage capacity
  - Complement "bottom up" with "top down"

- Manage worse-before-better
  - Focus on eliminating defects with the best cost/benefit ratio

- Change your habits around problems
  - Respond to a screw-up as though it were a capability problem

- Have a clear strategy and live by it

Fast Decision Making in High Velocity Markets

- <u>Rapid Decision Making</u> in fast moving, and ambiguous environments is critical to competitive advantage, and helps to mitigate overload

- Best Practices for Speeding Decision Making (from a multi-case study of computer firms):
  - **Counterintuitive**: faster decision making involves considering *more* simultaneous alternatives than slower firms
    - Considering more alternatives prevents costly "revisits," is more easy to evaluate than decisions in isolation, and reduces escalation of commitment to poor options– e.g., hard to buy a car without looking at multiple cars

  - Use of experienced counselors speeds decision making:
    - Hasten development of alternatives, and mitigates lack of confidence
  - Use of active conflict resolution speeds decision making

- Faster decision making has been repeatedly linked to higher performance in these settings
  - Slower decision making produces worse, not better outcomes as the environment changes and firms fail to make some critical decisions

Strategic Challenge: Dealing with Change and Ambiguity in High Velocity Environments

Sources of Ambiguity

- Extreme uncertainty about future

- Blurred timing and paths

- Shifting competitive basis, from products to business models

- Increasing penalty stock market is more selective

Impact

- Planning is limited

- Reacting is insufficient

- Traditional strategies of "defend a position" and "leverage core competence" are incomplete

Strategy Changes

- Strategy is simple
  - More ambiguous markets, simpler strategies

- Time is central to strategy
  - Longer time horizons
  - Rhythm, AND speed

- Organization drives strategy

Improvising: Business Strategy as Simple Rules

Common experience

- Innovative ideas suffer from poor execution

- Company aspires to lead, but always follows

- "Analysis-paralysis"

- Endless search for consensus
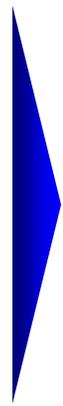
Myths

- Successful companies are run by a braintrust of a few, smart senior executives

- Success is driven by an army of revolutionaries

- Successful companies
  - Operate on the fly
  - Limit information
  - Eliminate conflict

Best practice

- Focus on a few key strategic processes and a few simple rules to exploit opportunities

- Success is driven by more information, not less

- Business unit teams are central to success

- Innovation AND efficiency

Improvising: Business Strategy as Simple Rules

Company	Key processes, simple rules
Yahoo!®	• Always maintain Yahoo look • Products released in 3 stage quiet launch • All developers can work on all products • Strict development priorities
Pfizer®	• Clear ranking molecules types as research priorities • Maximum number of molecule types pursued at any one time • Projects "killed" according to step charts

Miramax Films®
The Crying Game
Pulp Fiction
The English Patient
Life is Beautiful
Shakespeare in Love
	• Movies must
	  – Center on a basic human condition and flawed, but sympathetic character
	  – Have a clear beginning, middle, and end
	• Disciplined financing (50% more efficient than industry standard)

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Regenerating: Short-term Growth Strategy

Common experience	Myths	Best practice

• New businesses suffocate in shadow of legacy ones
 	
• New businesses thrive while traditional businesses languish
 	
• Roadblocks on previously successful growth paths
	• New businesses succeed when isolated from traditional ones
	
	• New businesses succeed when leveraged from core competencies
		• Genetic evolution
		  – Traditional businesses (and people) are combined with new approaches
		  – New businesses refresh traditional ones
		  – Traditional businesses are occasionally re-combined
		  – Multiple growth paths are traveled
		  – Existing businesses are culled
		
		• INVERSE power law for scale of change
		
		• Old AND new

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Regenerating: Short-term Growth Strategy

Company	"Genetics" of growth

Toyota®	• Lexus entry into luxury market, built on
	   – Discarded, experimental, midsize, Asian market product platform
	   – New dealerships, brand images, styling, technology
	   – Rearchitected selected engineering features
	• Refreshed lower priced name plates with Lexus technology

Canon®	• Sophisticated combination of mutations, recombinations, and refreshers • Combined camera skills (optics technology, management of dealers, high-volume assembly) with new copier product • Combined print engines from copiers with new laser printer product and OEM channel into print engine business • Refreshed copier business with sophisticated control technology from laser printers • Recombined dealer management, high-volume assembly, copier and laser printer technology to launch fax machines business
Wells Fargo®	• Diversified into high-volume, low-cost, in-store banking outlets with service-training of salesforce from theme park companies • Newly trained salesforce re-vitalized traditional branch network

Probing: Long-term Growth Strategy as Learning

Common experience	Myths	Best practice
• Strategic plans are created, then ignored • Strategic plans are wrong • Short-term performance takes priority over future thinking	• Planning predicts the future • Planning is a waste of time, just react	• Probe the future – Wide-variety of low-cost probes • Manage NUMBER of probes, not just type. More probes, more variety with more uncertainty • Create identity of company, not vision of industry • 15 month intuition, 5 month plan, 5 week schedule

Probing: Long-term Growth Strategy

Company	Varied, low cost probes
Microsoft®	• "You've got to make sure you have feelers out to see when things are about to achieve critical mass" - Bill Gates, COB • Small investments in 3 video compression technologies • Both internal projects and "Blue Sky" projects
Charles Schwab®	• Organic experiments w/futures trading, Market Buzz, AdvisorSource • Alliances w/Goldman Sachs for IPOs, Great West Life for direct life insurance • In-house futurists
BP®	• "You've got to experiment…strategy is about buying options…then picking the best ones" – John Browne, CEO • Drilling experiments on Andrew oil field led to revolutionary horizontal drilling technique • Limited JV with Safeway to experiment with integrated food and fuel convenience stores

Time-pacing: Rhythm of Growth Strategy

Common experience	Myths	Best practice
• Surprised by events in the market	• Succeed by reacting as quickly as possible	• Time pacing – Scan relevant rhythms – Structure transitions – Set the pace
• Takes too long to respond to opportunities		
• Frequently lose momentum		• Rhythm NOT Speed

Time-pacing: Rhythms of Growth

Company	Activity	Time-pacing
intel®	Addition of manufacturing capacity	Builds new facility every 9 months
Starbucks Coffee®	Opening of new retail outlets	Opens 300 stores each year to hit target of 3,000
Gillette®	Launch of new products	40% of sales from products launched in last 5 years

How to have a Good Fight (Strategic Conflict)

- Rather than avoid conflict, successful firms in dynamic environments engage in constructive, not destructive conflict conflict:
  - Focus on the facts, rather than opinions of powerful leaders
  - Multiply the alternatives, as opposed to trying to focus conflict on limited number of options
    - Better able to find the more optional "win-win" solution
    - People become entrenched on a single option when there are too few, whereas having multiple alternatives surface the key dimensions of debate
  - Create common goals
  - Use humor to relieve the tension
  - Balance the power structure: promotes perception of fairness
  - Consensus with qualification: try for consensus; if not, everyone knows who ultimately makes the decision
    - Sense of fairness is developed when people are involved and voice their disagreement even when the decision goes another way

Looking Forward

- Alza/Ciba