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15.912 Technology Strategy

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15.912
Technology Strategy

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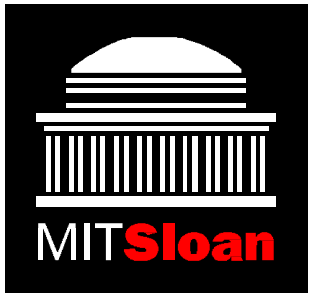


“Seamless Mobility” What is it?

According to the Article:

- “Brings simplicity to complexity” by tying everything to mobile handsets
- Focuses on “ease of use”
- A rationale for staying in many markets:
  - automotive electronics
  - home-theatres
  - emergency-radios
  - base-stations
- A way to justify new “transition” products:
  - high-speed internet access on trains
  - email in cars
  - Videophones
  - Cellular plane-coverage

Organizational Context: Why they devised “seamless mobility”

According to the Article:

- Resolve “internal strife” and “strategic paralysis”
- Make decisions:
  - Spin off smaller divisions / concentrate on phones ?
  - Retreat from handsets / focus network equipment ?
  - Focus on communications & entertainment markets ?
- …that is, be like Nokia, Ericsson, or Samsung?

Who am I?

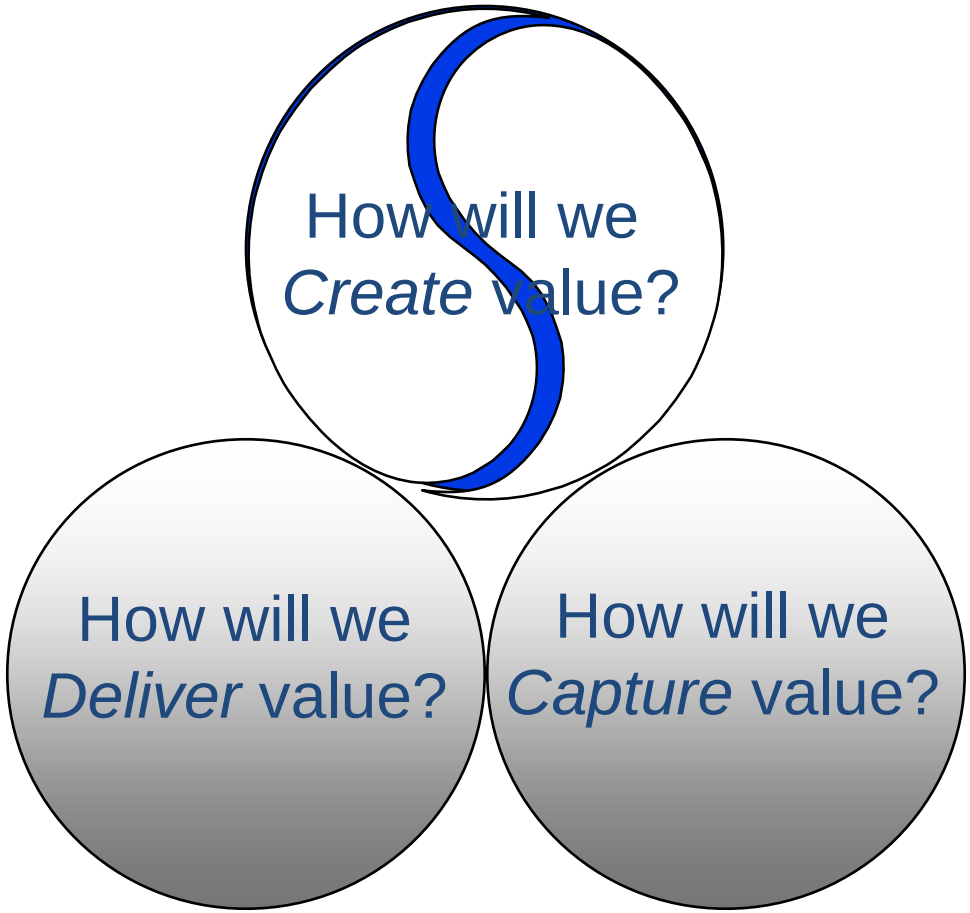
- New strategy professor in the MIT Sloan School
- Studied Computers & Brains at MIT (SB) and Caltech (MS)
  - Genetic Engineering @ MIT
  - Neural Network Algorithms @ Caltech
- Worked at McKinsey, Intel, and IBM doing tech strategy related work
- PhD in Management Science from Stanford University
  - Research Focus on Collaborative Innovation: how do pairs of firms manage joint technology development?
  - Compared relationships between 10 large IT firms in Silicon Valley, Seattle, and Portland that co-developed new Web2.0, mobility, and security technologies
  - Case research based on ~100 interviews with execs, managers, and engineers, supplemented with computational modeling

Who are you, and why did you come?

- Need to know how to ***do*** tech strategy when you graduate: work in consulting, big tech-firms, or new ventures....
- Realize that technology will shape management in your non-technology-centric industry – i.e., retail, banking, government, etc.
- You're a scientist/technologist thinking about technology entrepreneurship…
- Fun set of cases (Google, Apple, RedHat, etc.) and fascinating concepts (innovator's dilemma, network effects, co-opetition, complexity theory, simple rules)
- Others?

What is a “strategy” anyway?

Effective strategies answer three key questions:



Effective strategies tackle 3 key questions:

- How will we create value?
  - How will the technology evolve?
  - How will the market change?
  - How do we organize effectively?

- How will we capture value?
  - How do we compete to gain sustainable competitive advantage?
  - How should we compete if standards are important?
  - How to manage technology platforms?

- How will we deliver value?
  - How should we execute the strategy?
  - How do we make strategic decisions and take decisive action?

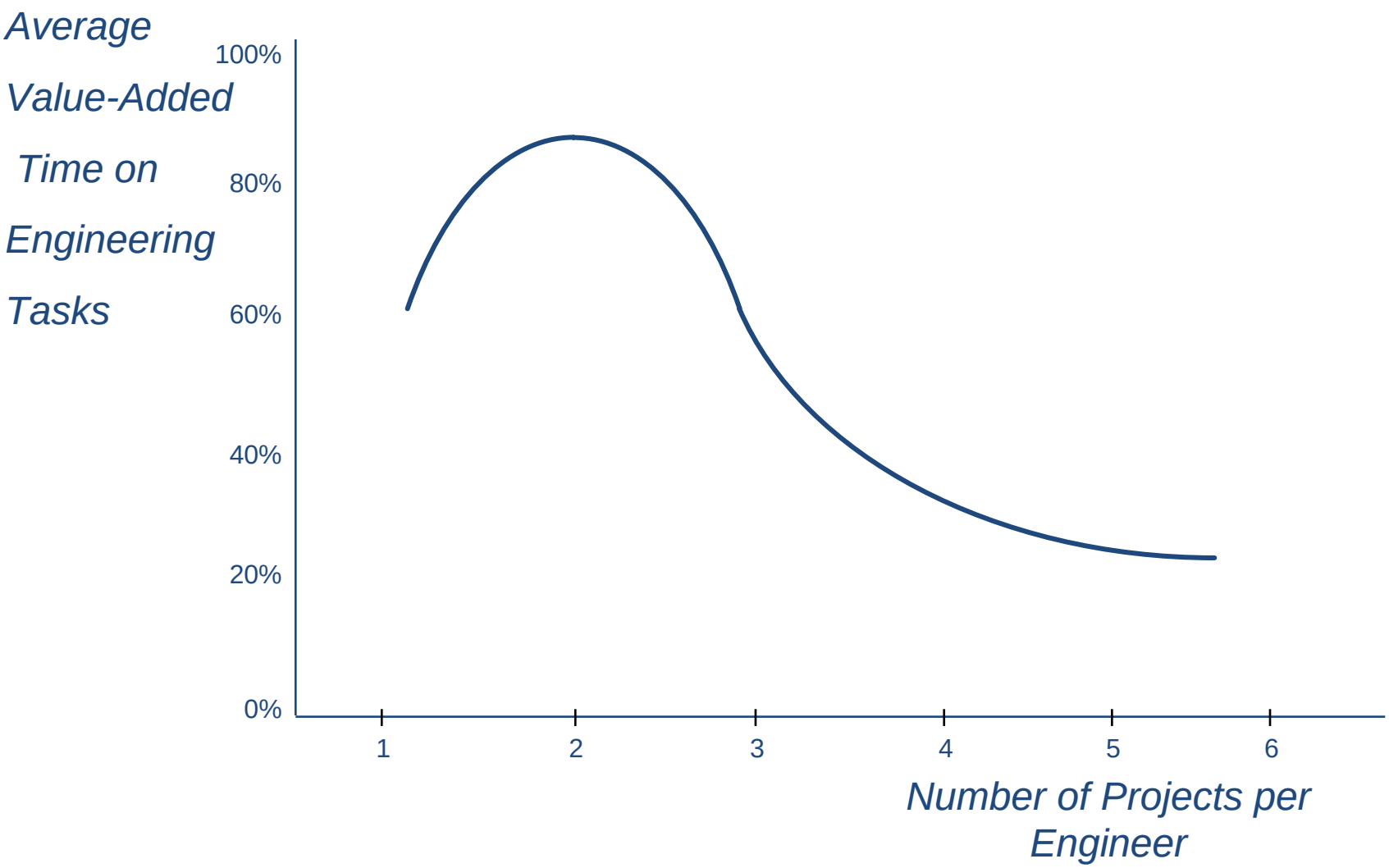
Why have a strategy?

Why have a strategy?

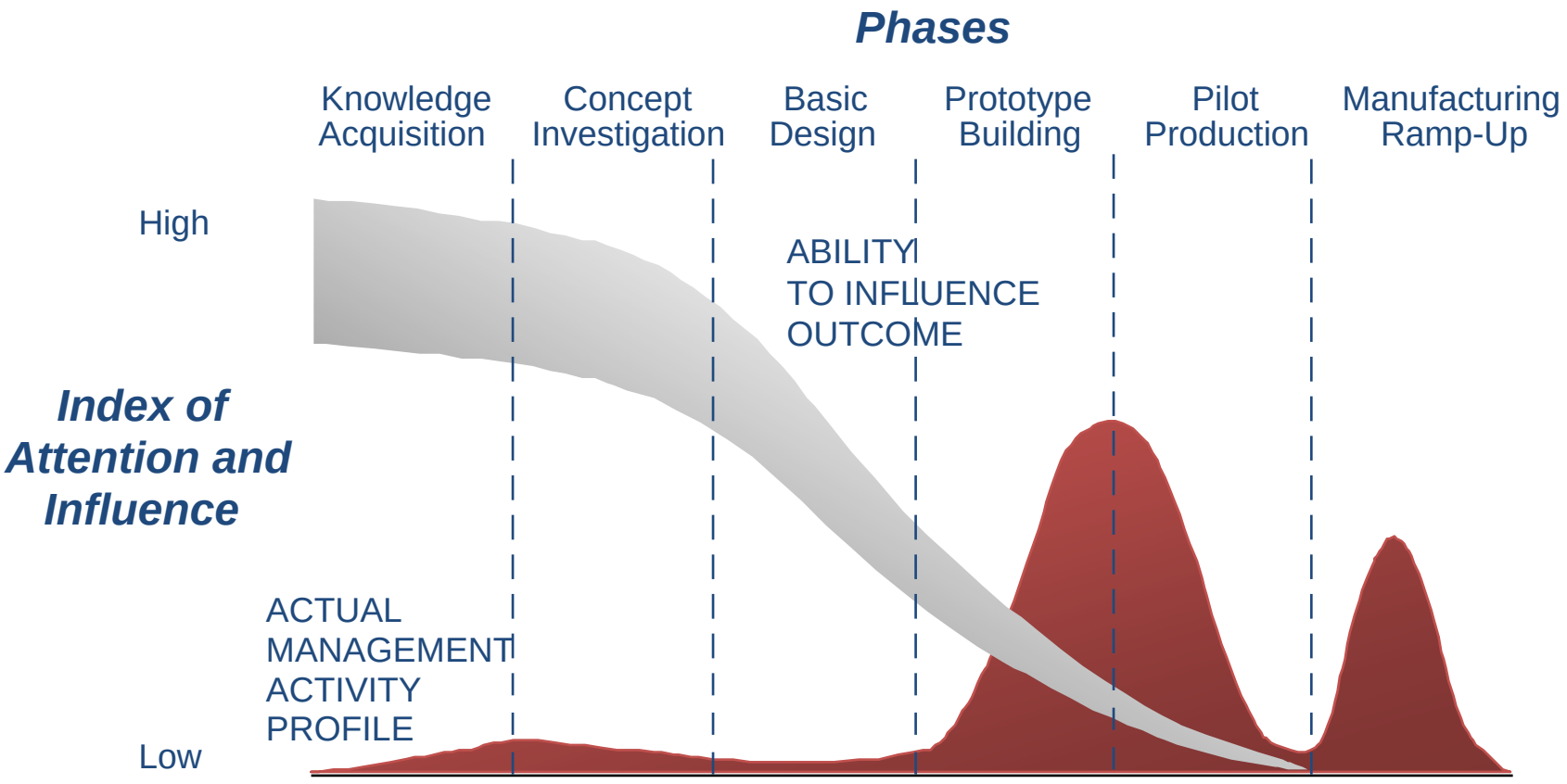
1. To make choices and take actions

Is This Your Project Pipeline? (A Log Jam)

Overcommitment destroys productivity



The Timing and Impact of Management Attention



Why is it so hard to kill project #26?

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

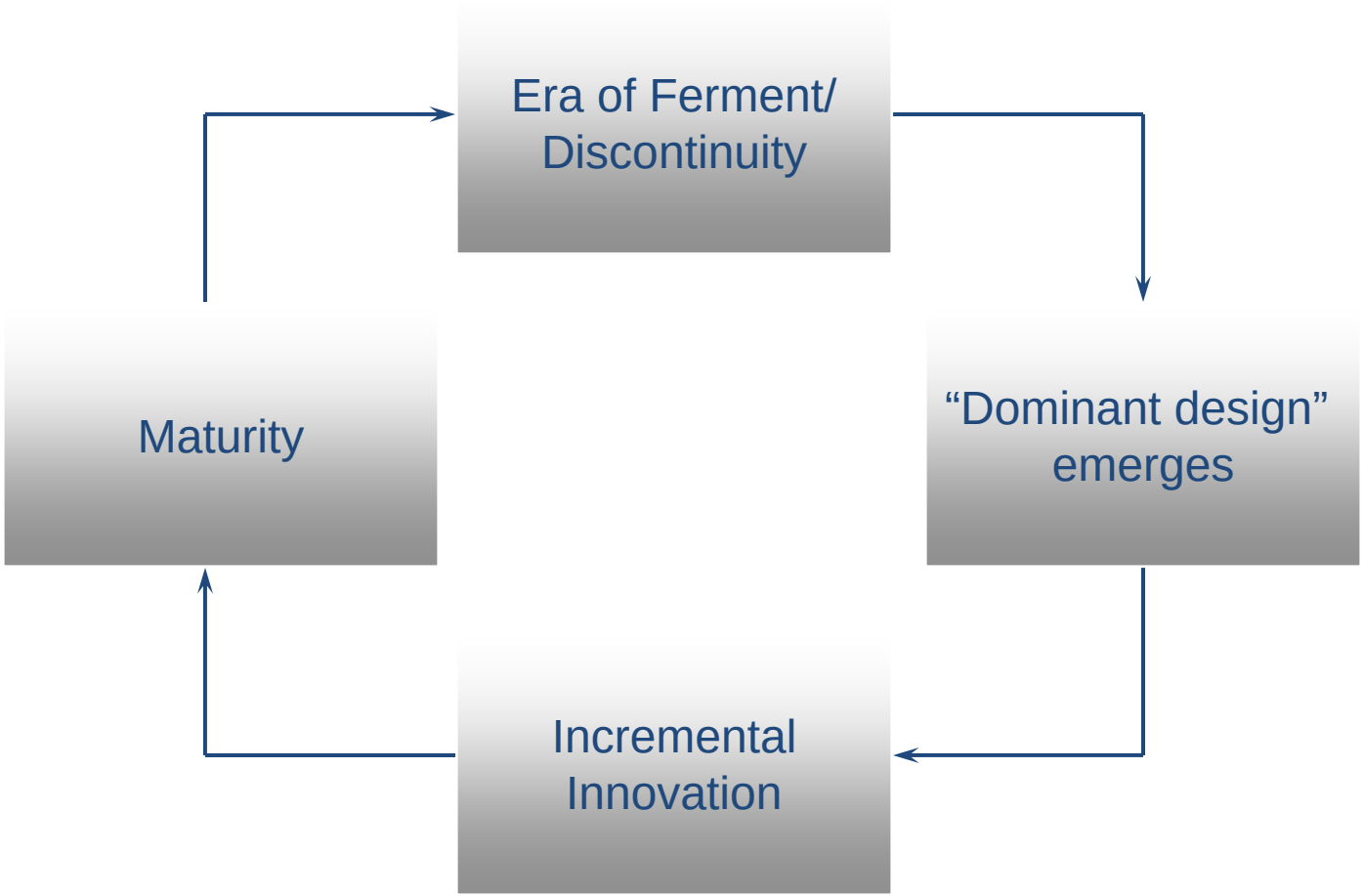
  (and I'm a good manager)
- Making difficult decisions takes time & energy

It's very hard to kill projects without a strategy

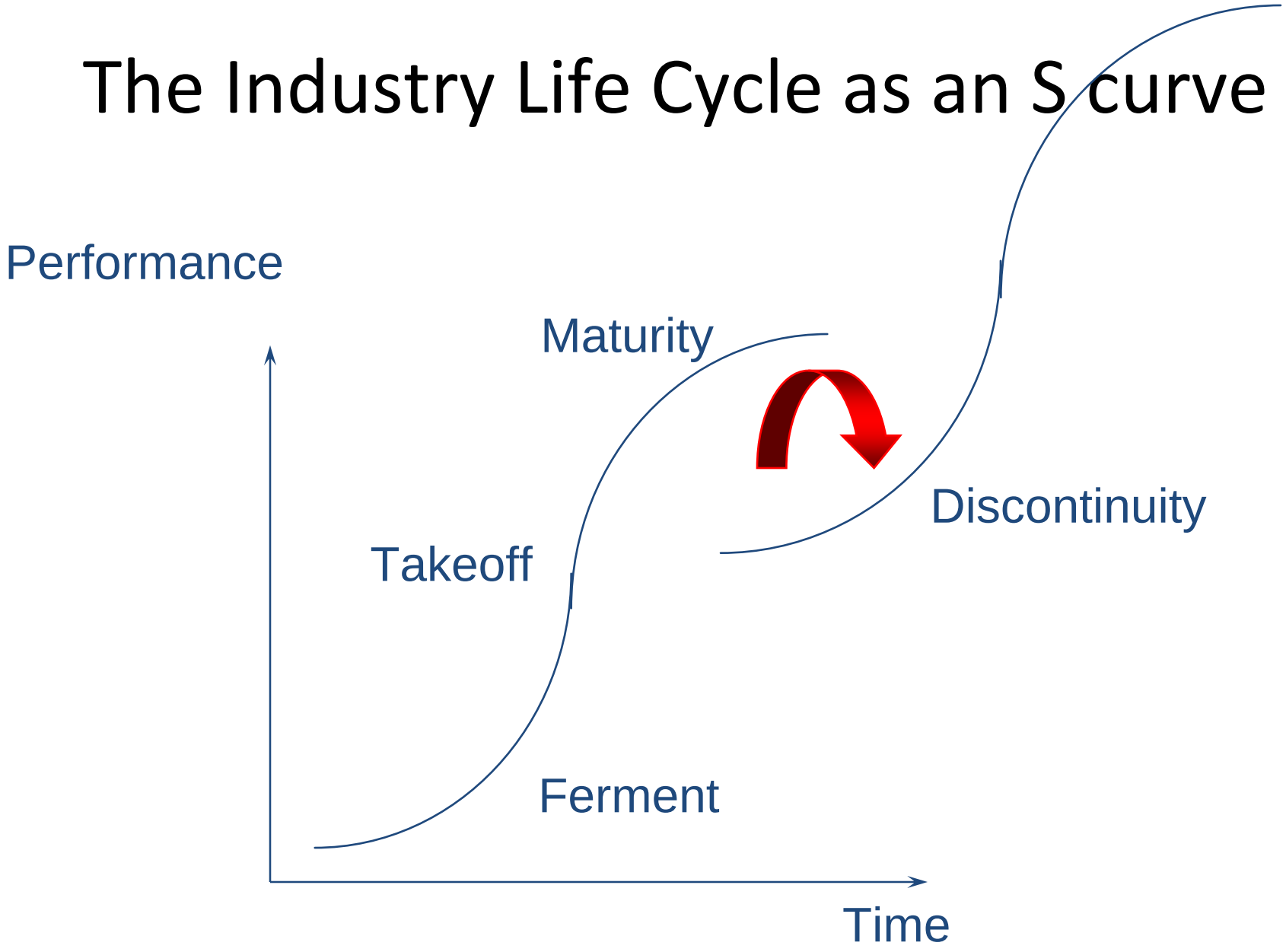
Reasons to have a strategy:

2. To be able to change it

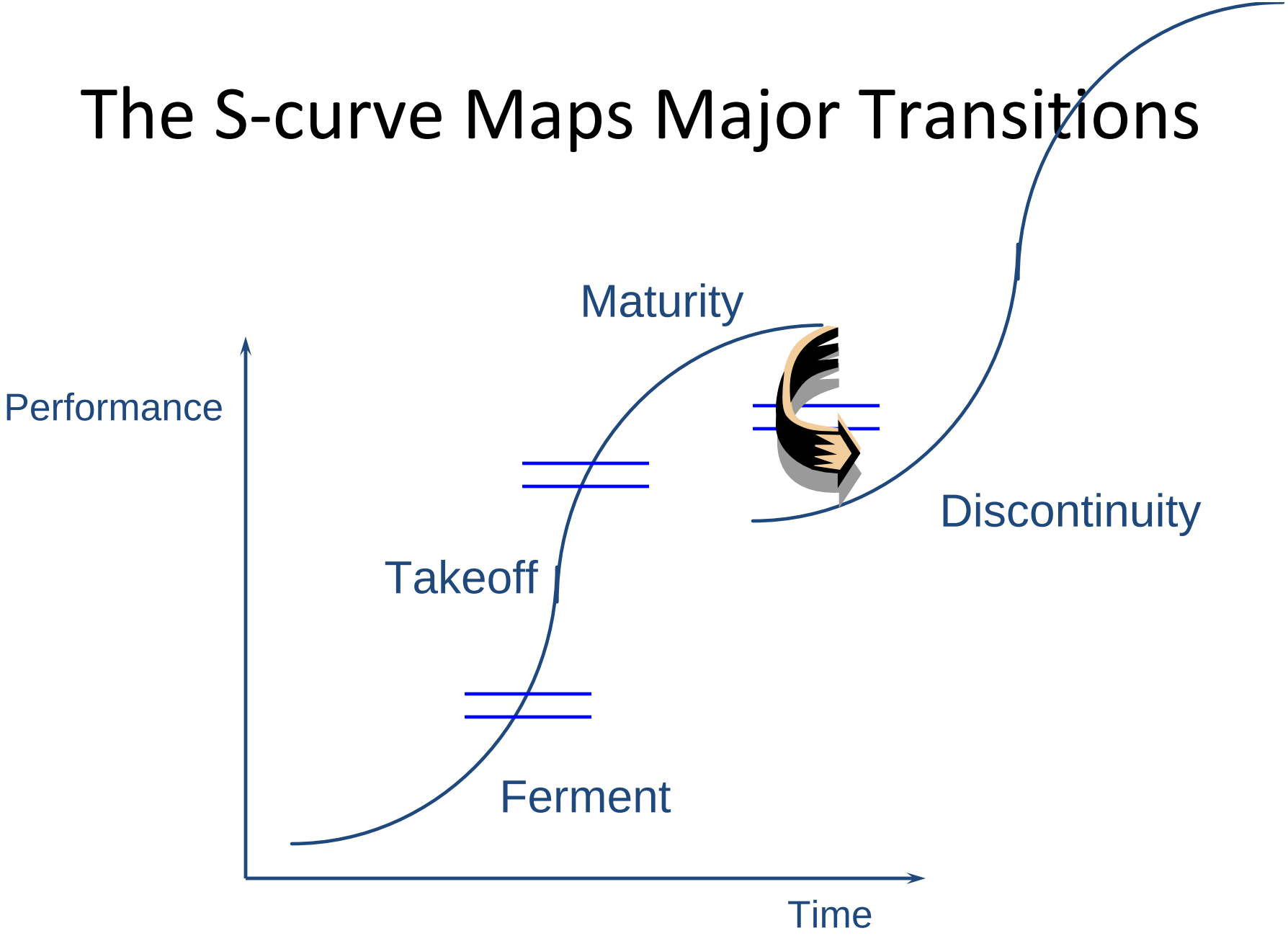
A Key Framework: The industry life cycle



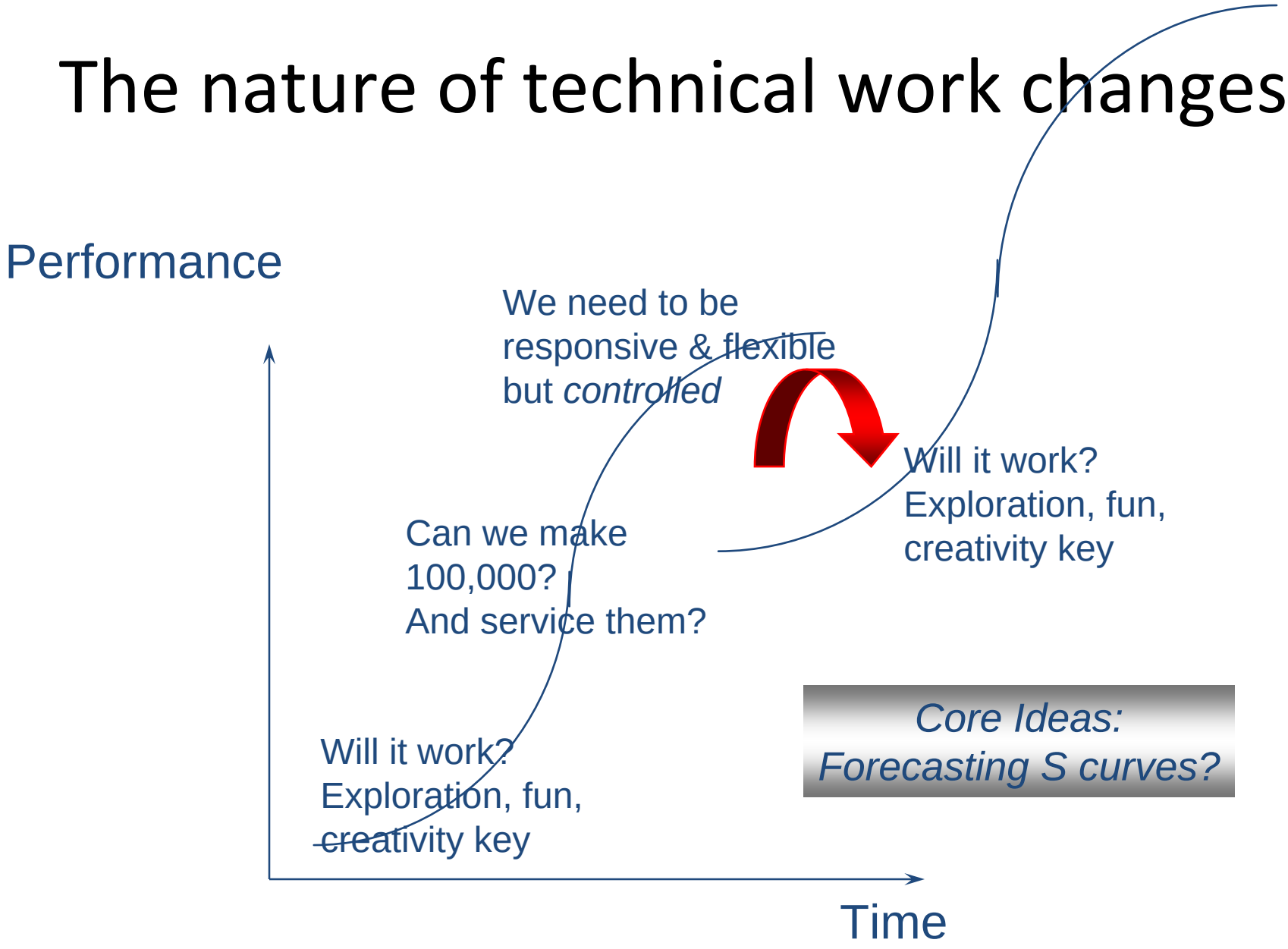
The Industry Life Cycle as an S curve



The S-curve Maps Major Transitions

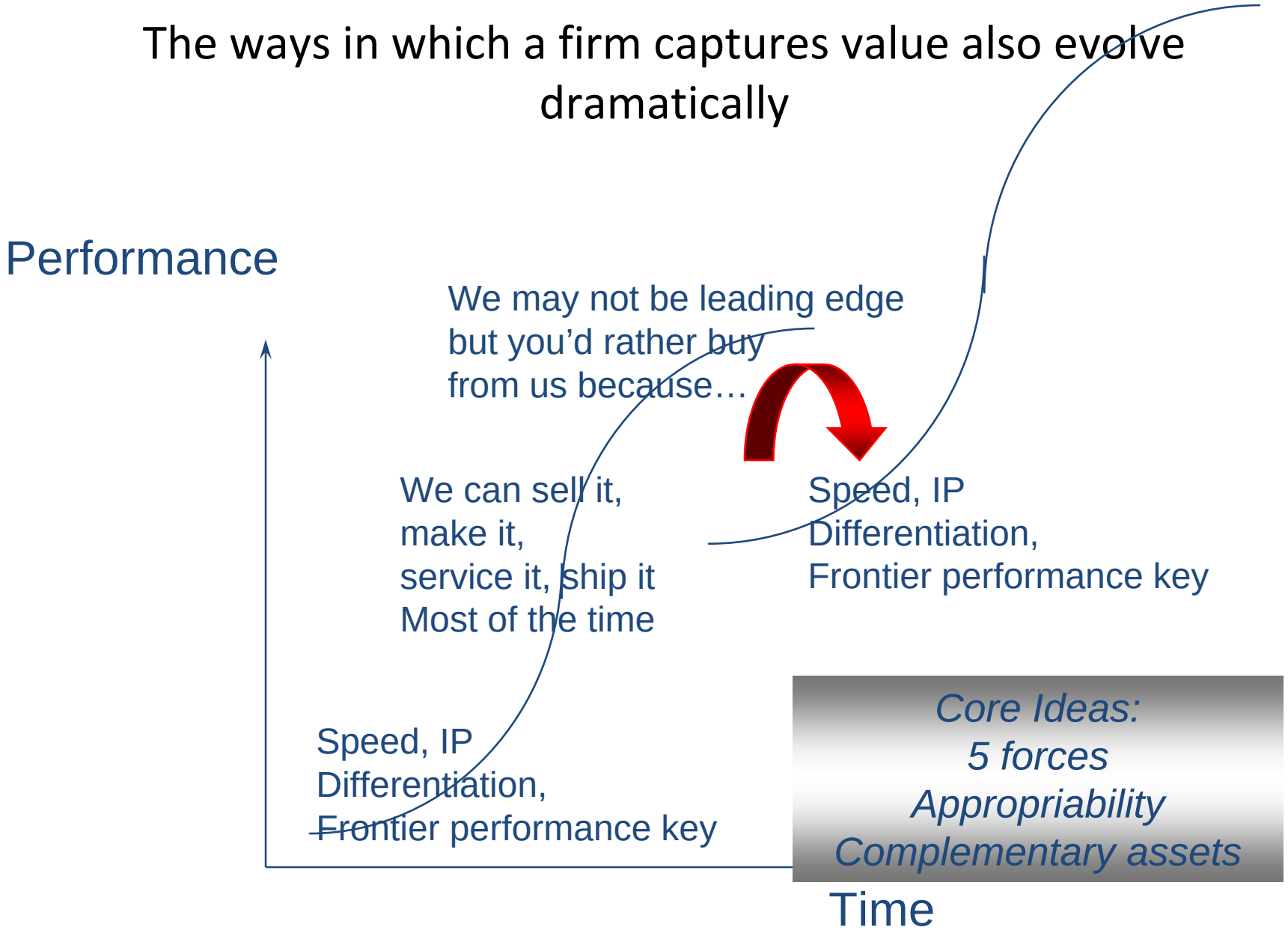


The nature of technical work changes

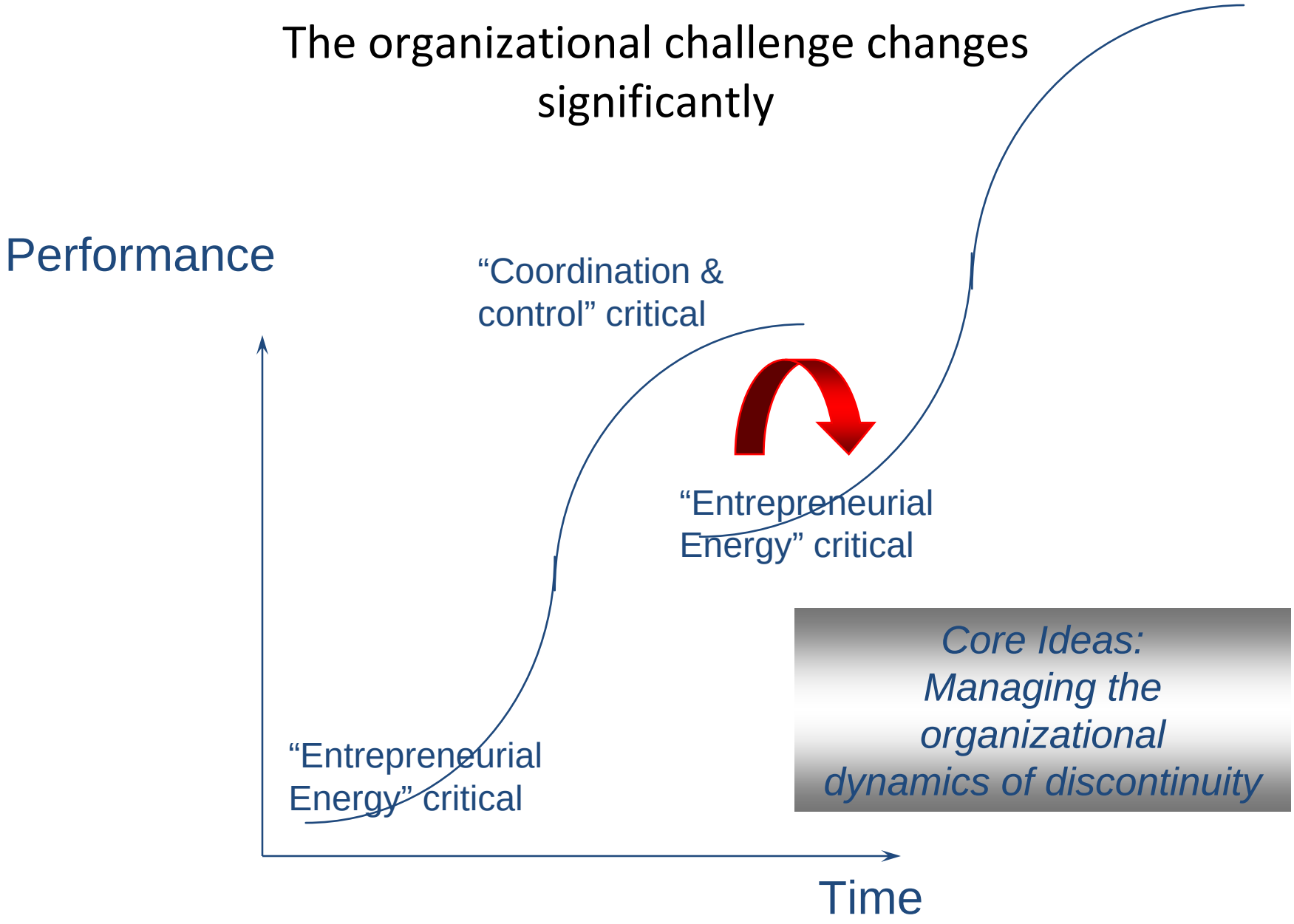


The marketing challenge evolves

The ways in which a firm captures value also evolve dramatically



The organizational challenge changes significantly



Core Ideas: Managing the organizational dynamics of discontinuity

15.912: Technology Strategy Course Outline

- How will we create value?
  - How will the technology evolve?
  - How will the market change?
  - How do we organize effectively?

- How will we capture value?
  - How do we compete to gain sustainable competitive advantage?
  - How should we compete if standards are important?
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- How will we deliver value?
  - How should we execute the strategy?
  - How do we make strategic decisions and take decisive action?

Logistics

- The Waitlist

- Grading:
  - Class attendance and participation 50%
  - Four “Two pagers” 20%
  - Final paper 30%

- Case Method + Readings & Lectures

Professional Standards

- Attendance
- Coming on Time
- Being Prepared to Discuss Cases
  - I encourage you to form discussion groups; focus on syllabus questions
  - I prefer you not use laptops
- Teamwork
  - Aim for 3 people teams

For Session 2:

- **eInk**
  - What should eInk do next? Which applications should they target? Why?
- First “two pager” due Session 3
  - Find a couple of teammates, choose an industry, sketch out the relevant S curves
  - Only 2 pages!