


4



Technology Commercialization and Global Environment

Technology Market Matrix

Technology

Existing Expanded New

	New			
Market	Expanded			Crystal pullers
	Existing			

Risk & Reward ?

The Firm

Technology

Existing Expanded New

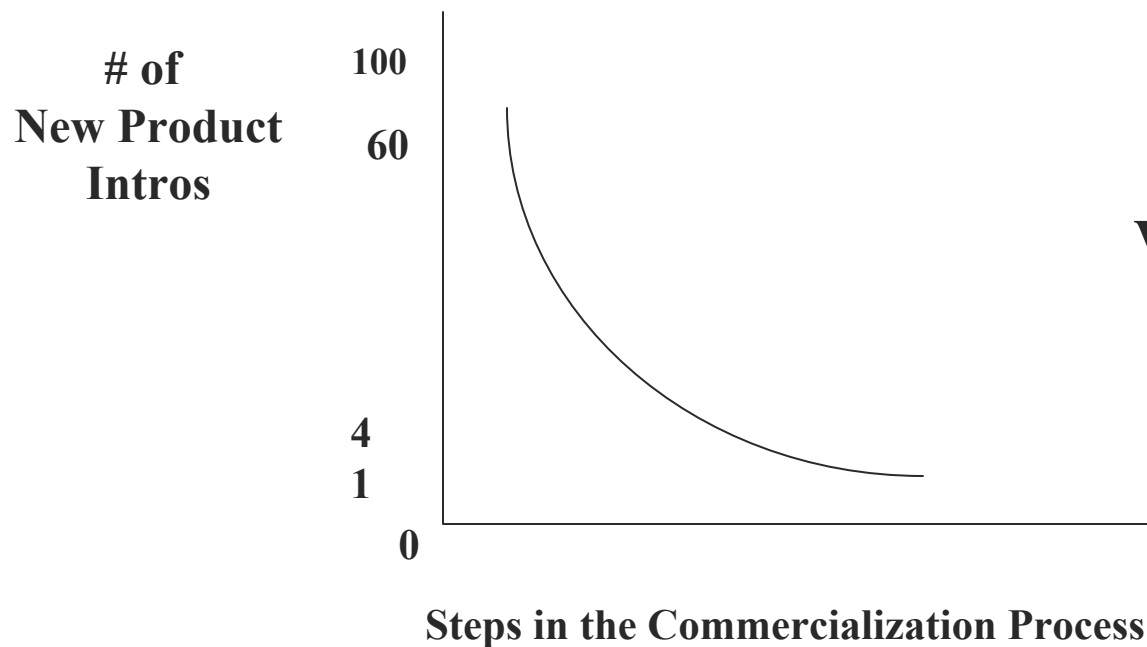
	New			
Market	Expanded			
	Existing	Crystal pullers		

**The
Competitor
Composite**

Innovation Win Rate

**Why do firms Worry
When New Product
Success Rate
Too High?**

**What does it say
about
Capabilities?
Innovation
Portfolio?**



“Rule of Thumb” Costing

Take the sales price of a good as 100%. The actual percentages vary by category and industry. But approximate values are:

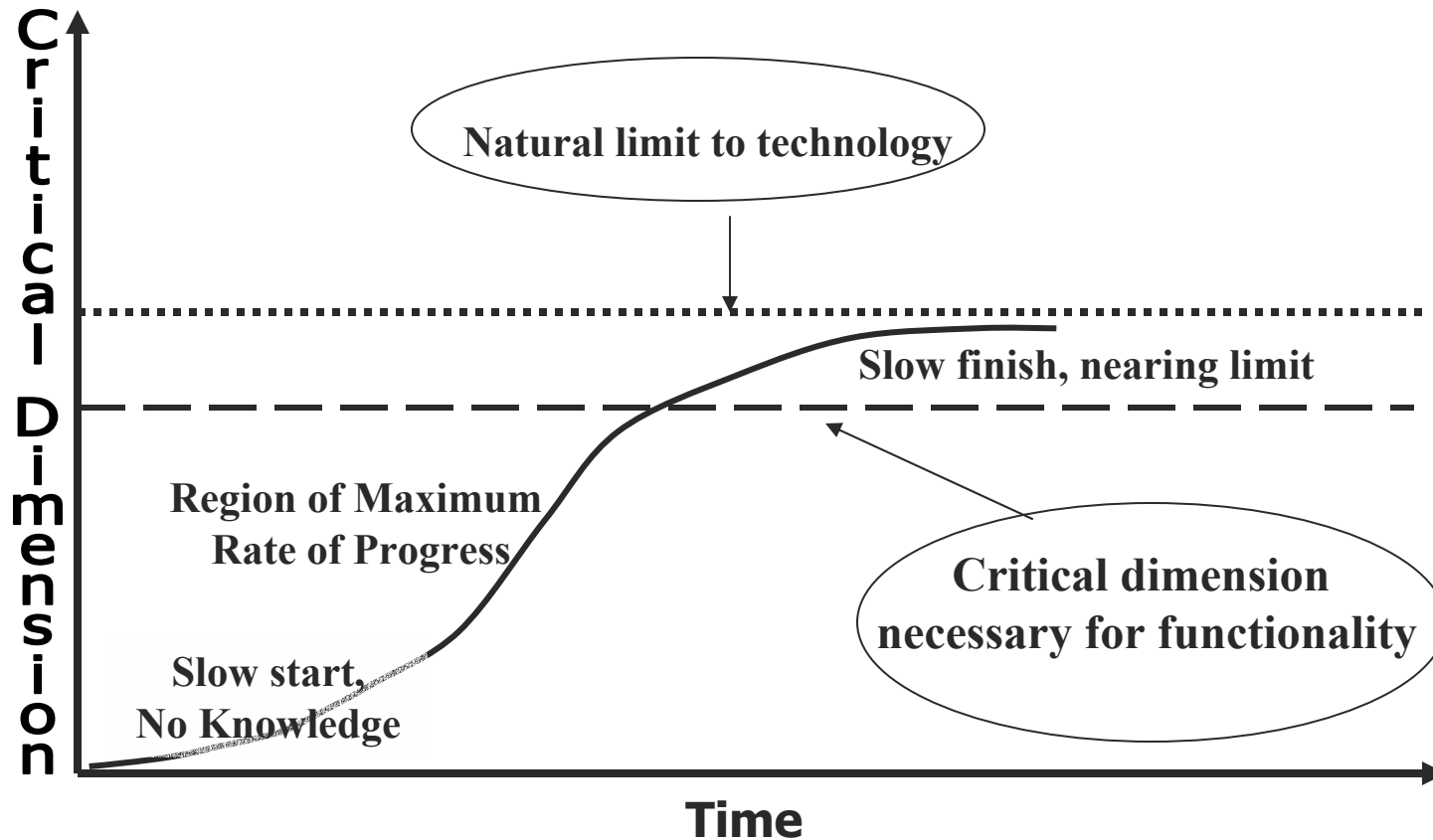
- 15-40% cost of the goods
- 15-40% labor
- 15-35% wholesale price
- 25-50% Gross margin
 - Ex. What are the capital requirements if retail price \$2,500
 - manufacturing cost 70% \$1,750
 - materials cost 50% of Man. Cost or \$875

Licensing and Marketing Technologies

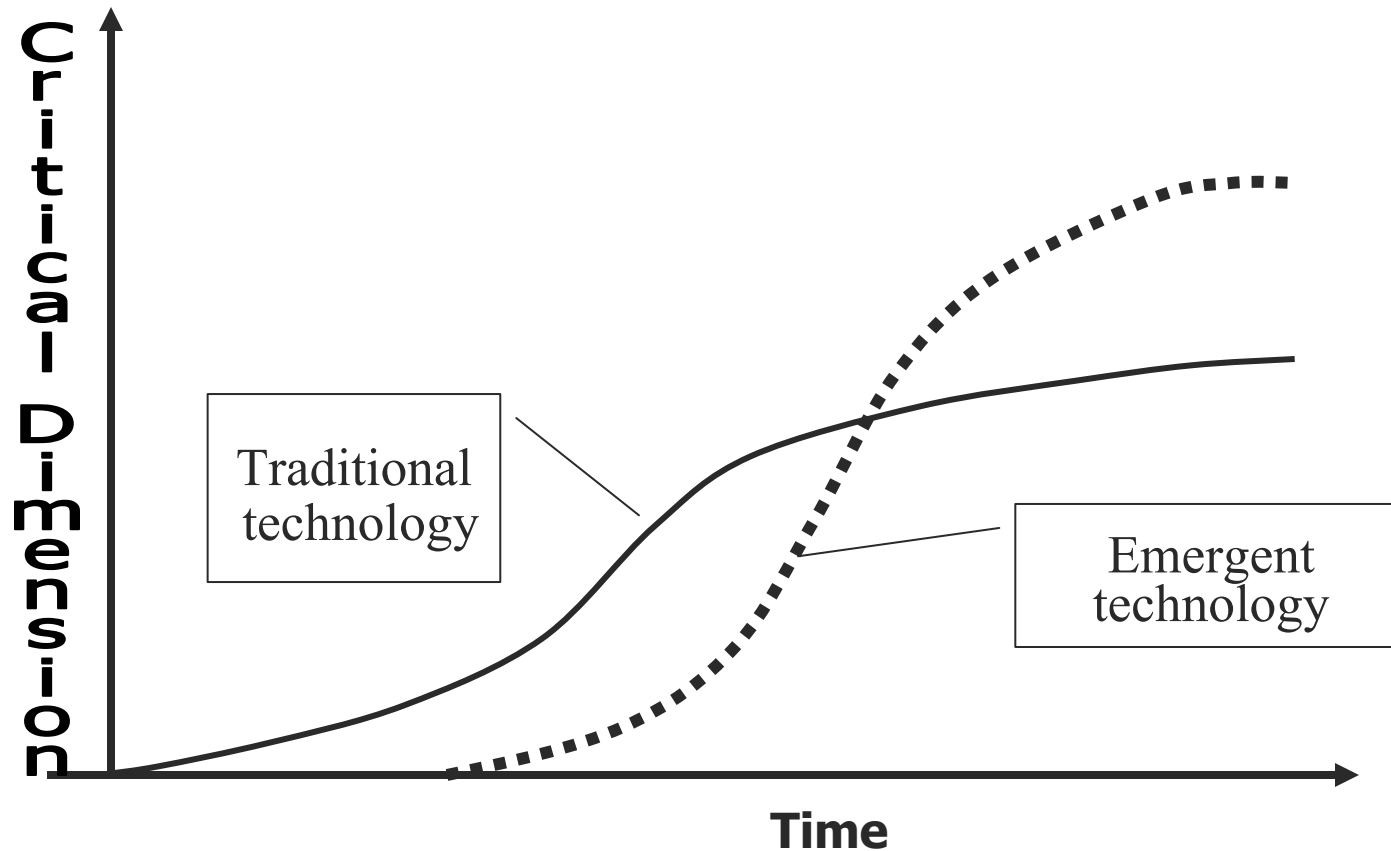
Deriving Value from technology

1. Full Commercialization (Internal)
2. Strategic Partnering
3. Licensing

Technology Lifecycle

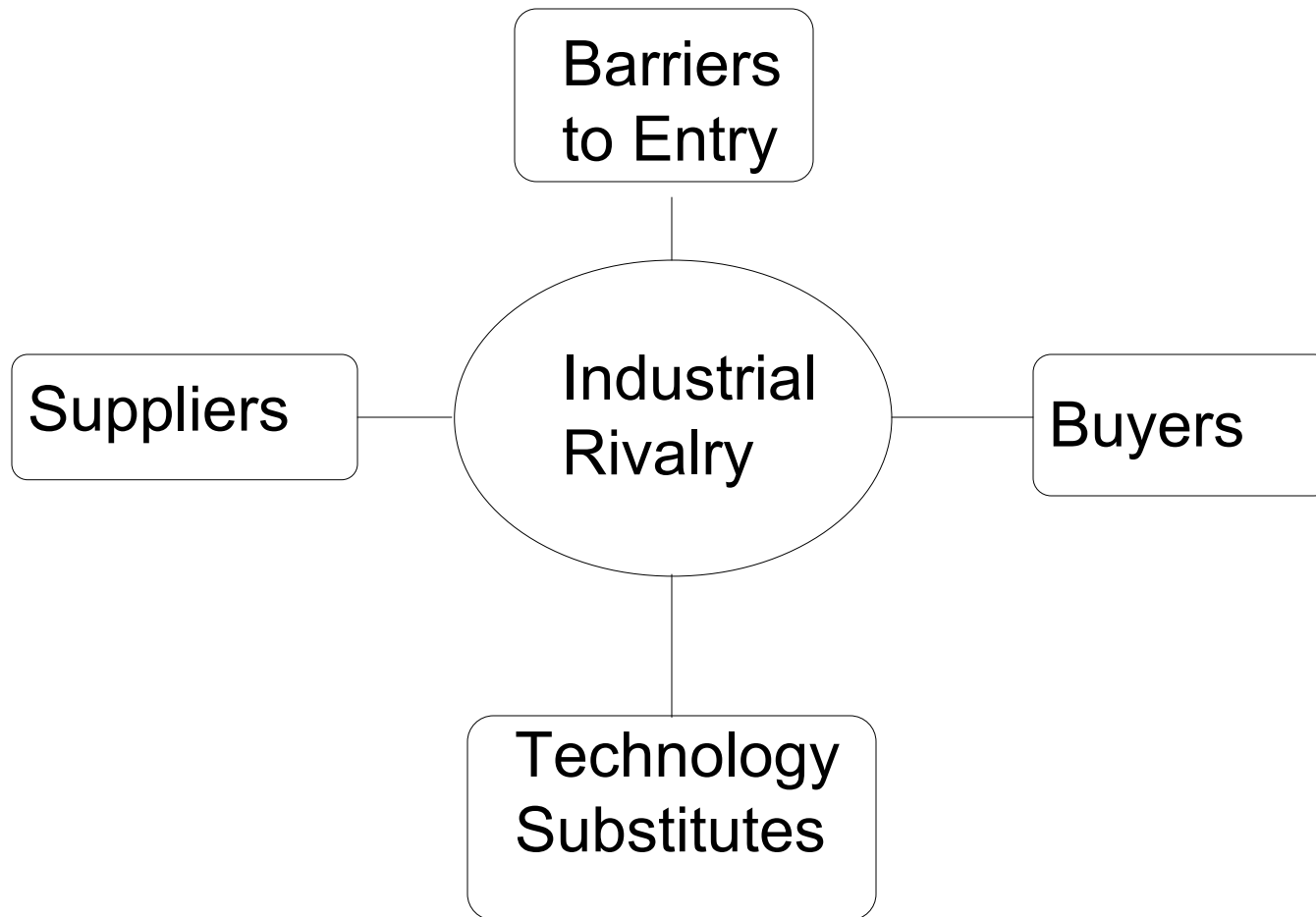


Competitive Technology Lifecycle



Ex: Vacuum tubes v. transistors
: Sail v. steamships

Technology affects all Forces Driving Industry Competition



Sustaining Versus Disruptive Technologies

Sustaining

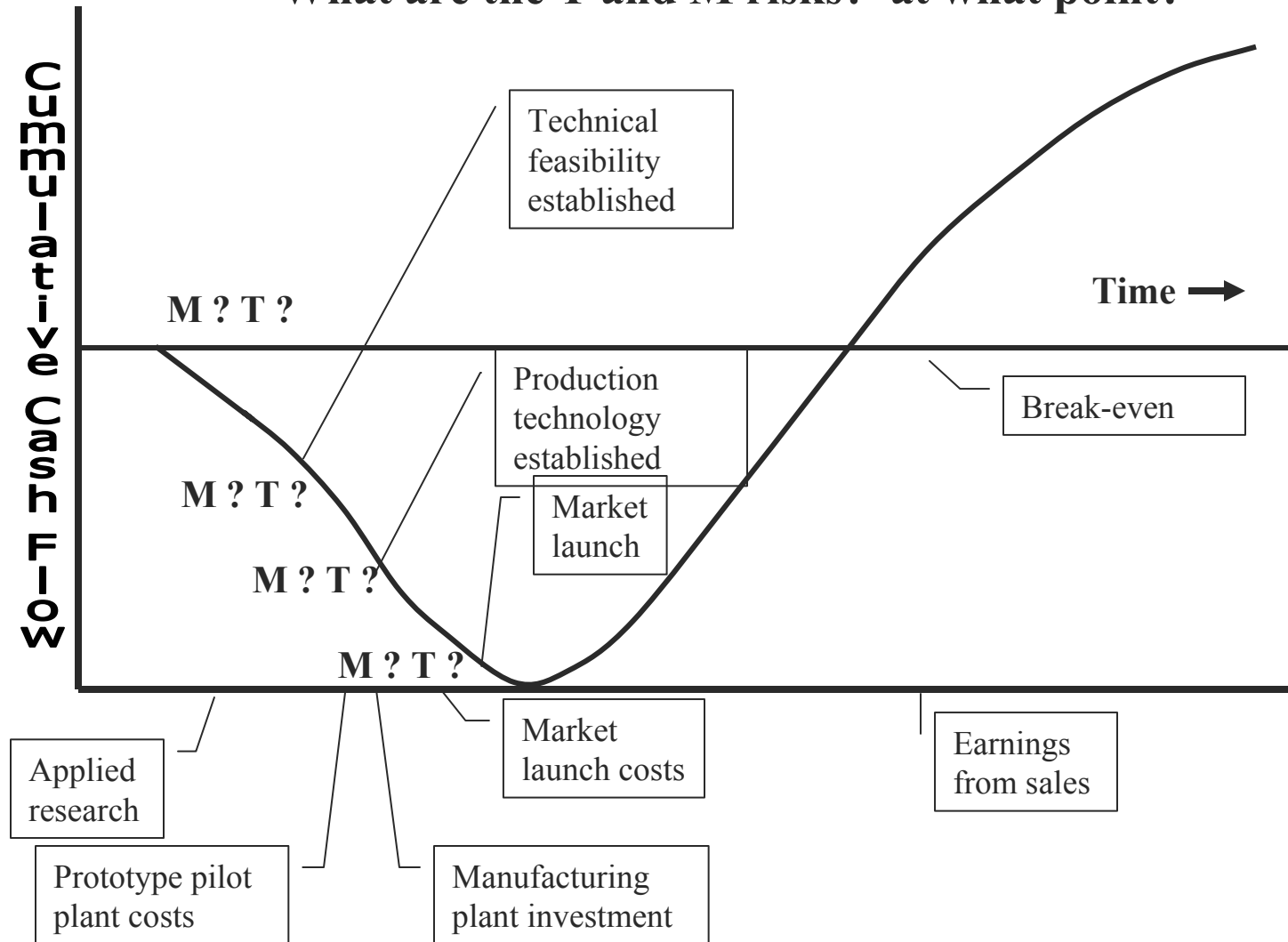
- Support Current Industry Capabilities and Competencies
- Support Current Firm Capabilities and Competencies.

Disruptive

- Exogenous Technologies to Any Industrial Setting
- Technologies That Do Not Find Support in the Firms Current Technological Portfolio

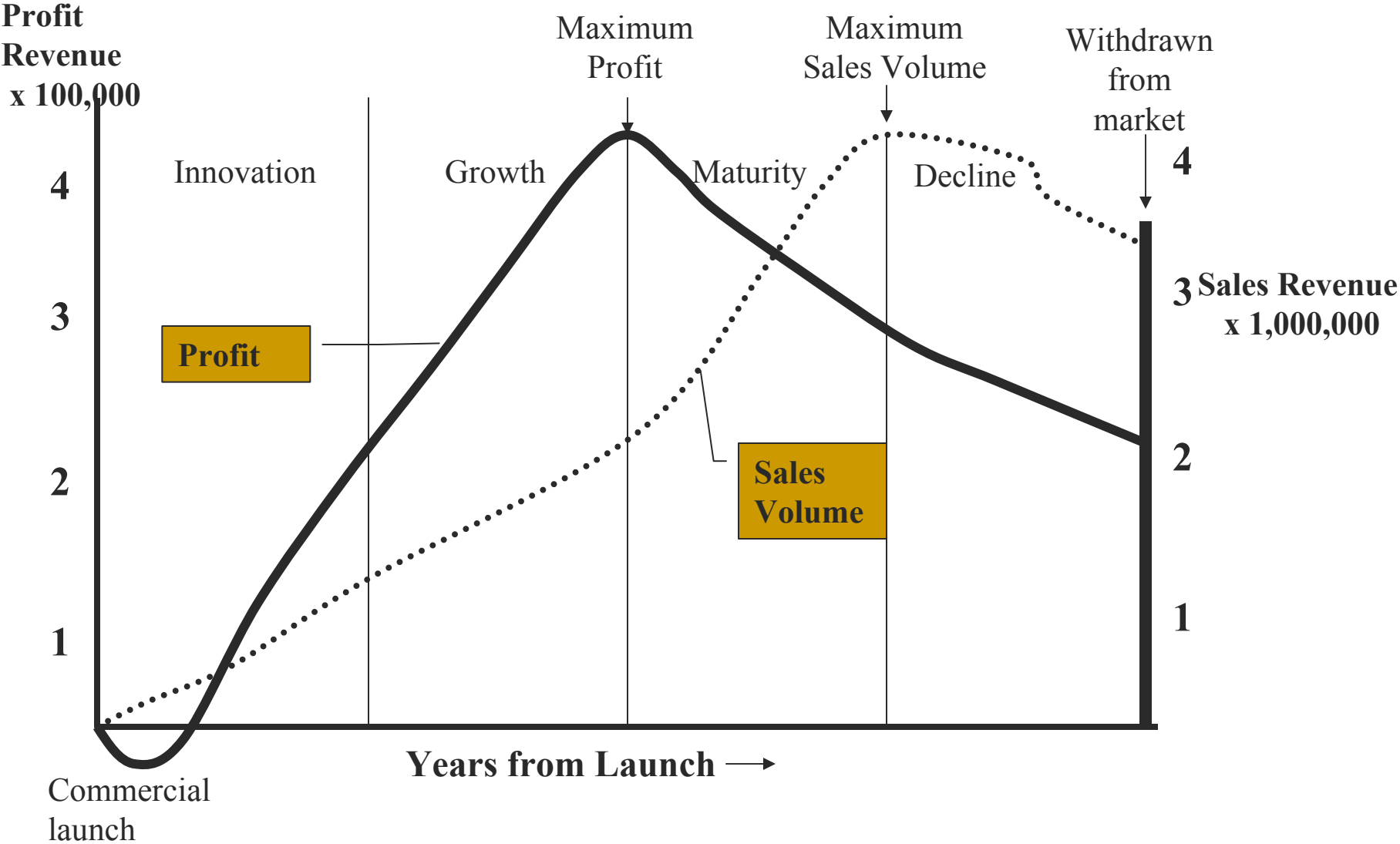
Cumulative Cash Flow Diagram

What are the T and M risks? at what point?

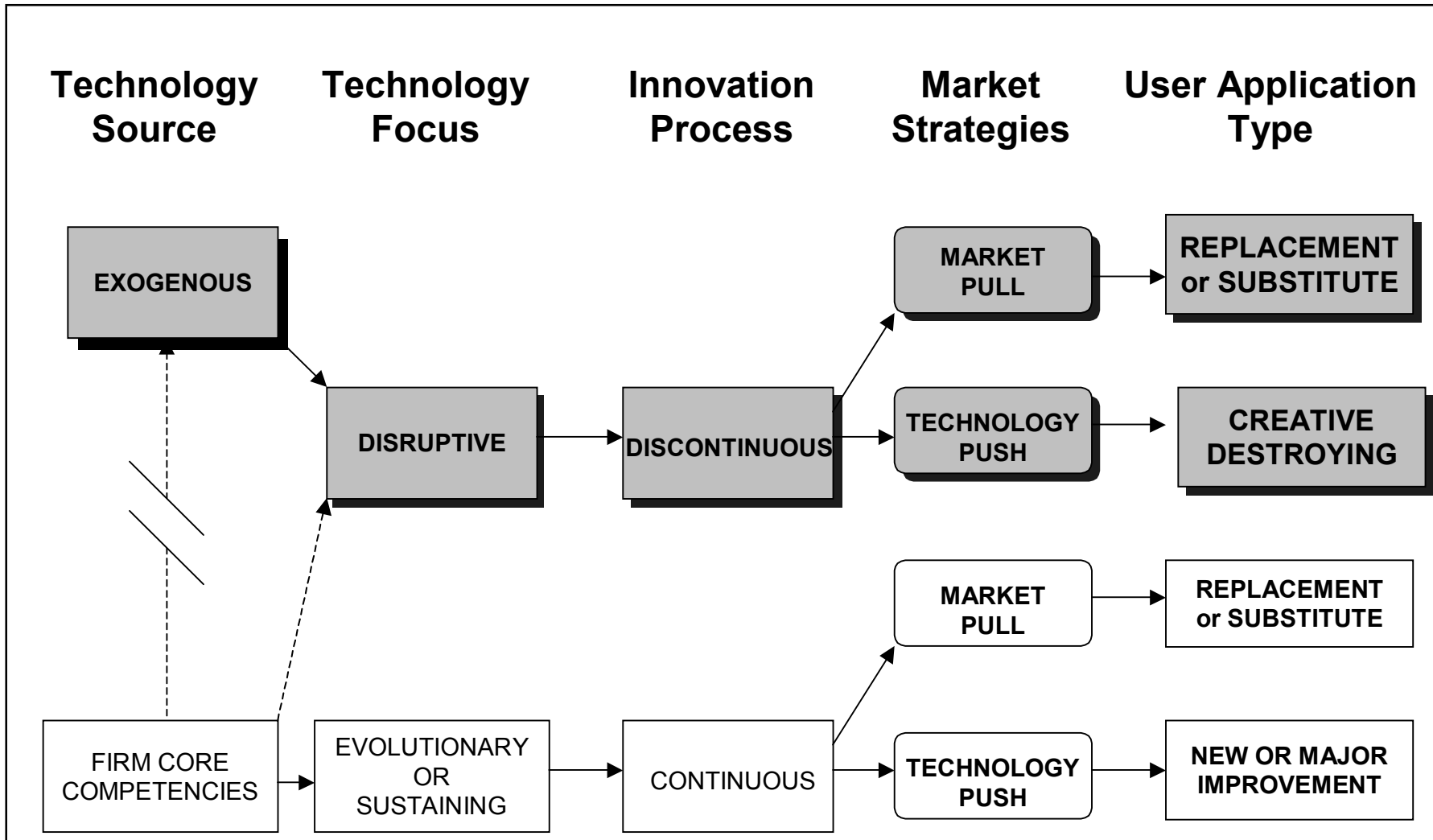


Profit and sales volume

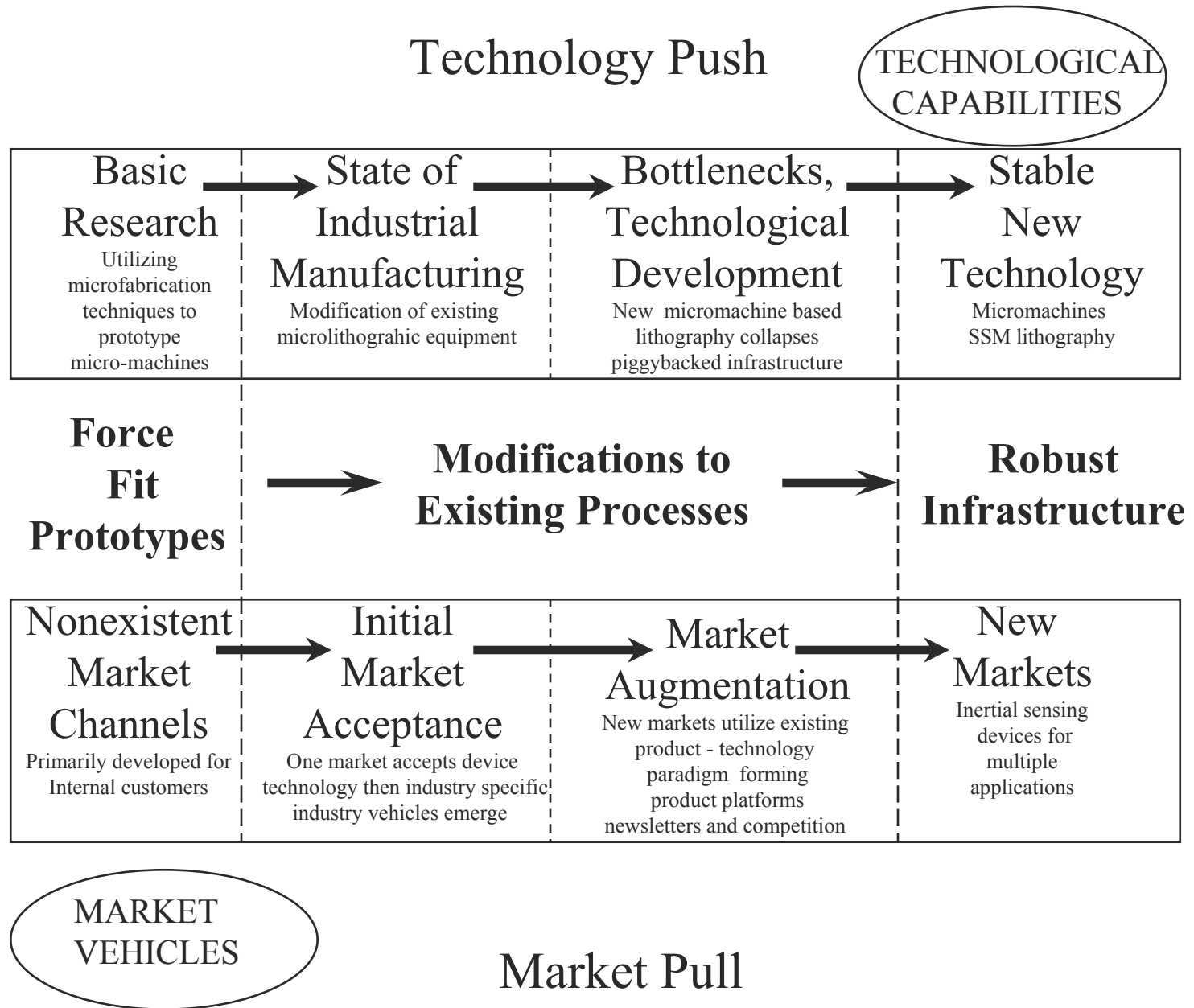
- life cycles for a typical product



WALSH AND KIRCHHOFF DISRUPTIVE TECHNOLOGIES MODEL

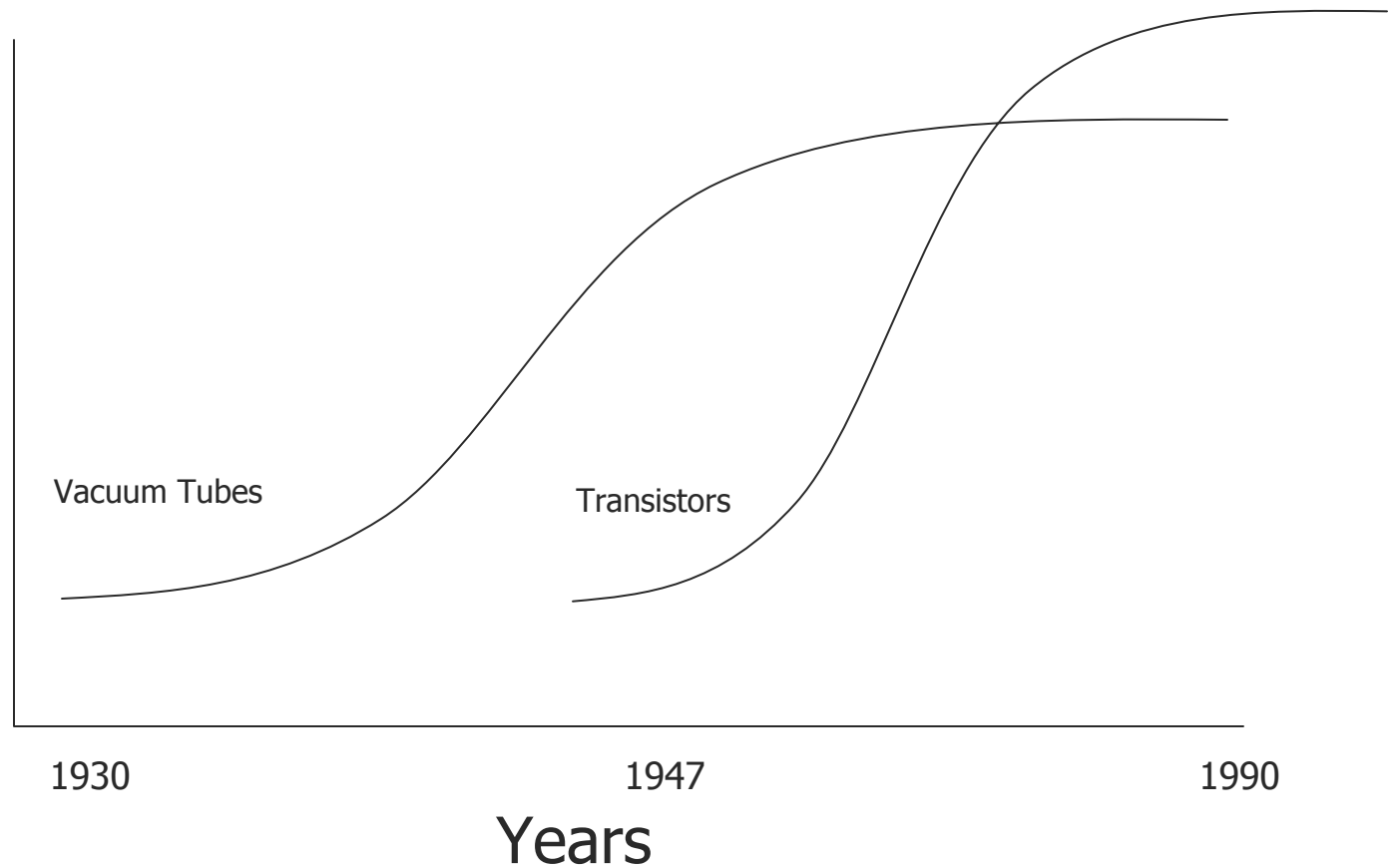


Infrastructure Model for Discontinuous MEMS Innovations



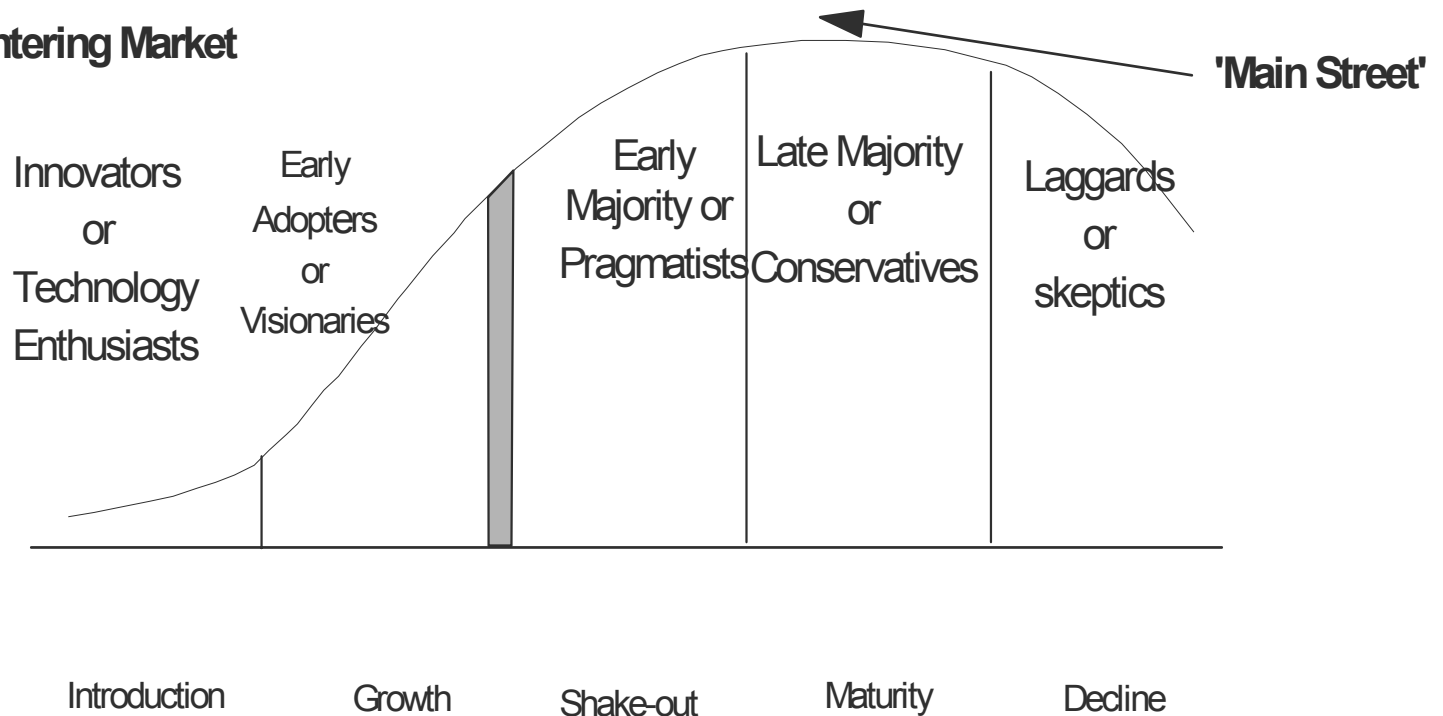
Competing Technologies

Critical
Dimension



Sandia Assist Firms throughout the Lifecycle

Customer Types Entering Market

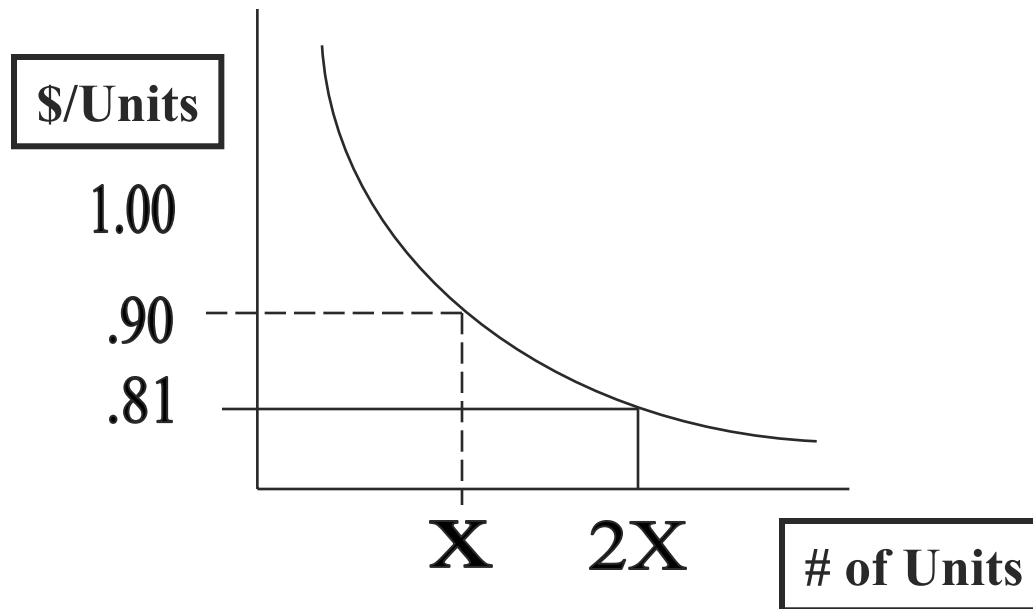


Product Lifecycle Phases

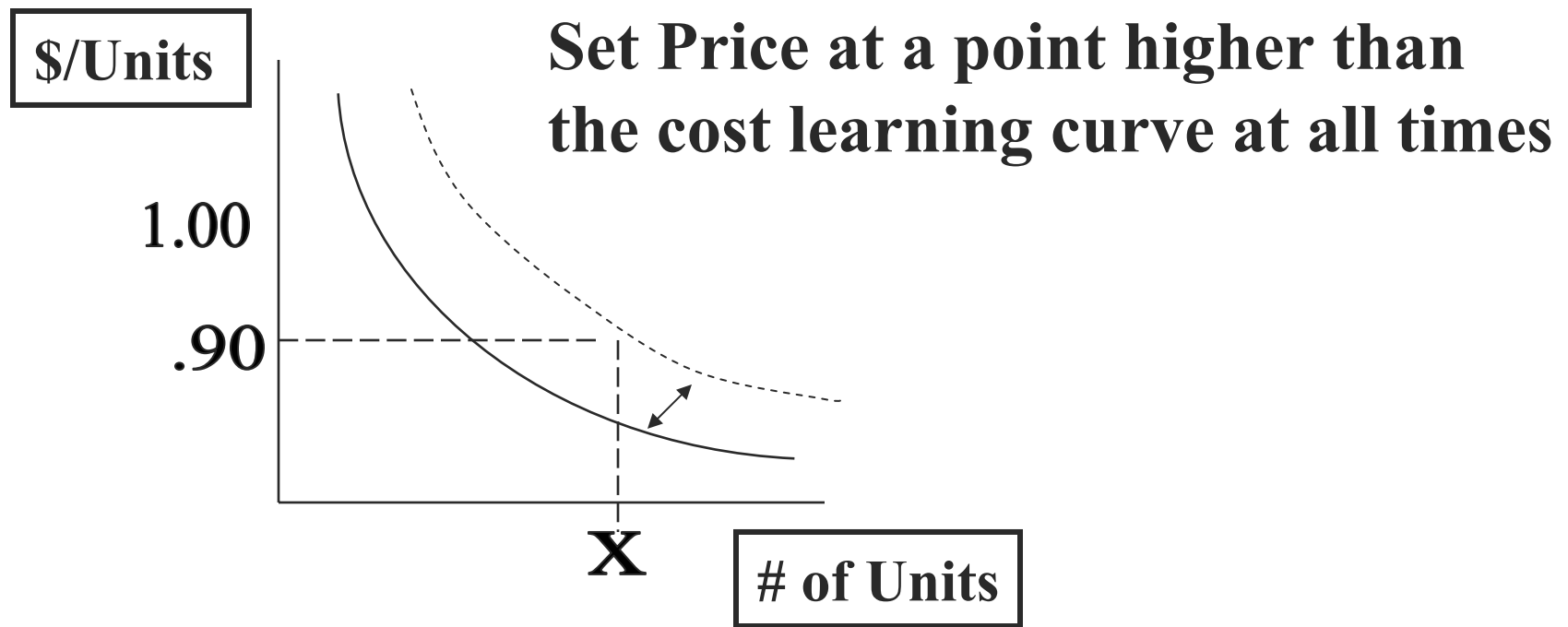
'The Tornado'

'The Bowling Alley'

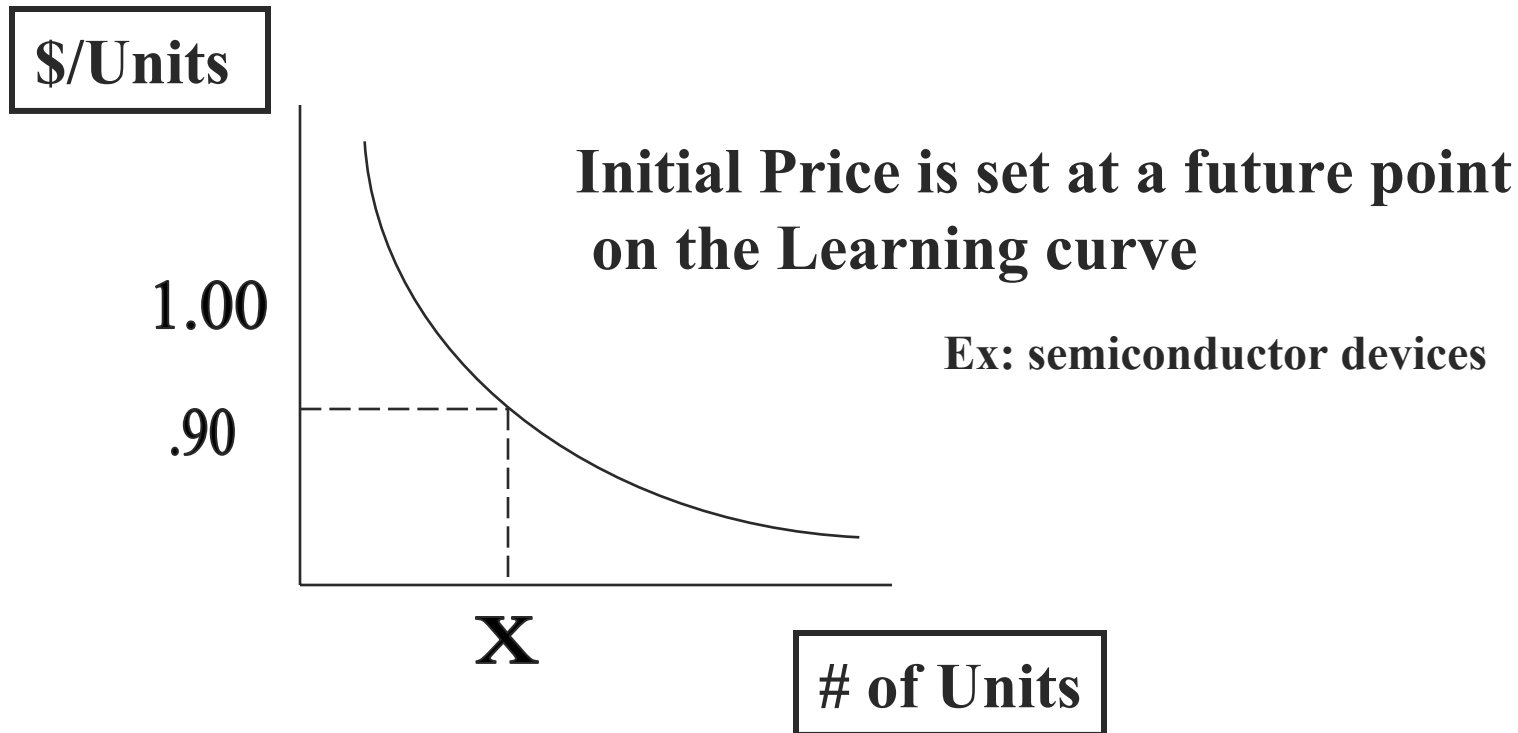
The Traditional Learning Curve



Profit Maximization and the Learning Curve



Competitor Minimization and Learning Curve



Design To Cost Vs. Design To Performance

- Lowest cost design to produce
- When do you redesign?
 - When you can make it cheaper
 - When industry Standards Change
 - upping the hurdle or
 - allowing you to make it cheaper
- Highest Performing Design along specific Critical Dimensions
- When do you redesign?
 - When you can make it perform better along a specific critical dimension

The Performance Curve

