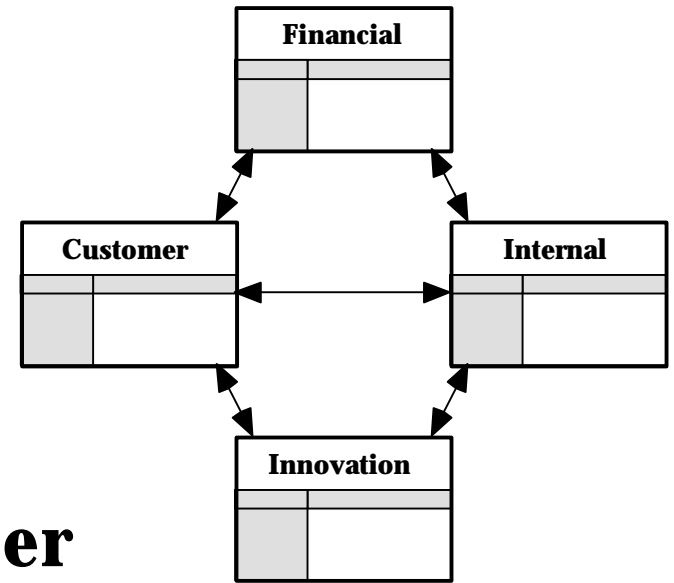
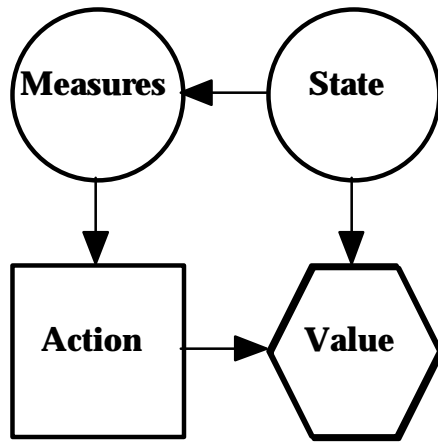


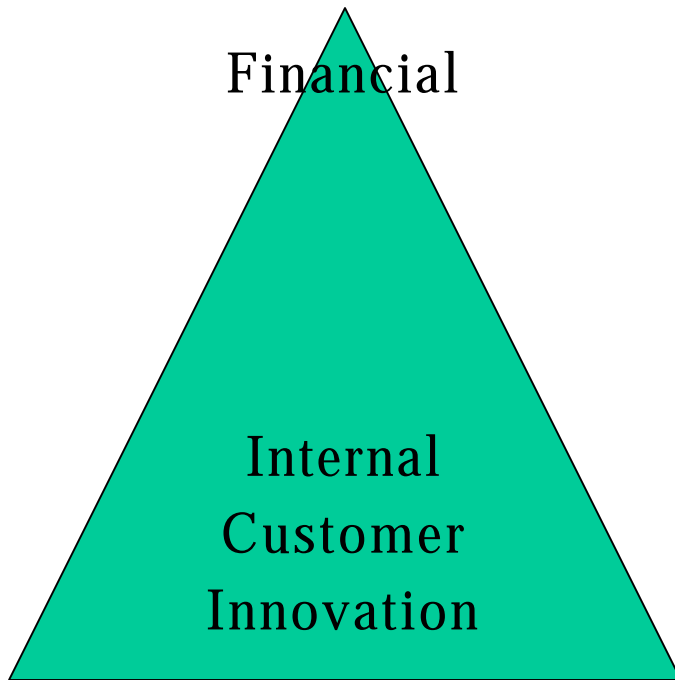
Influence Diagram Models for the Balanced Scorecard



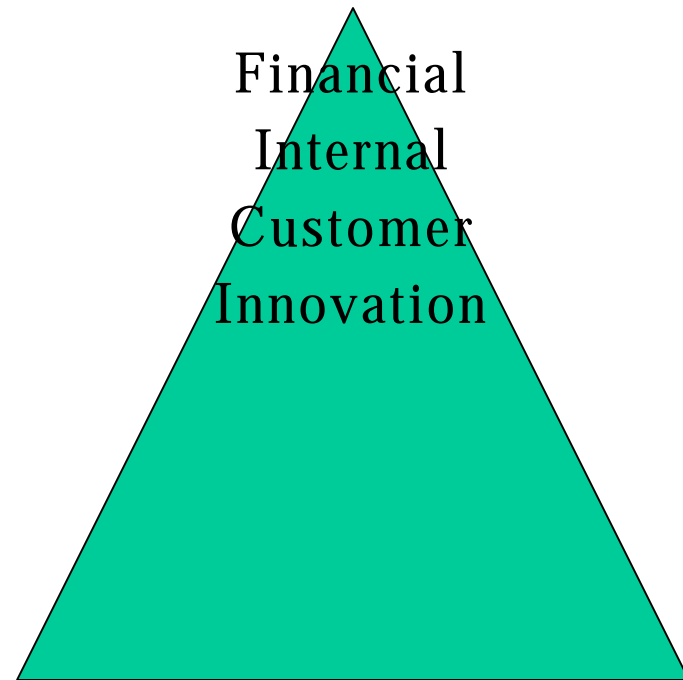
Ross D. Shachter

Management Science and Engineering Department
Stanford University

Decision Hierarchy



or



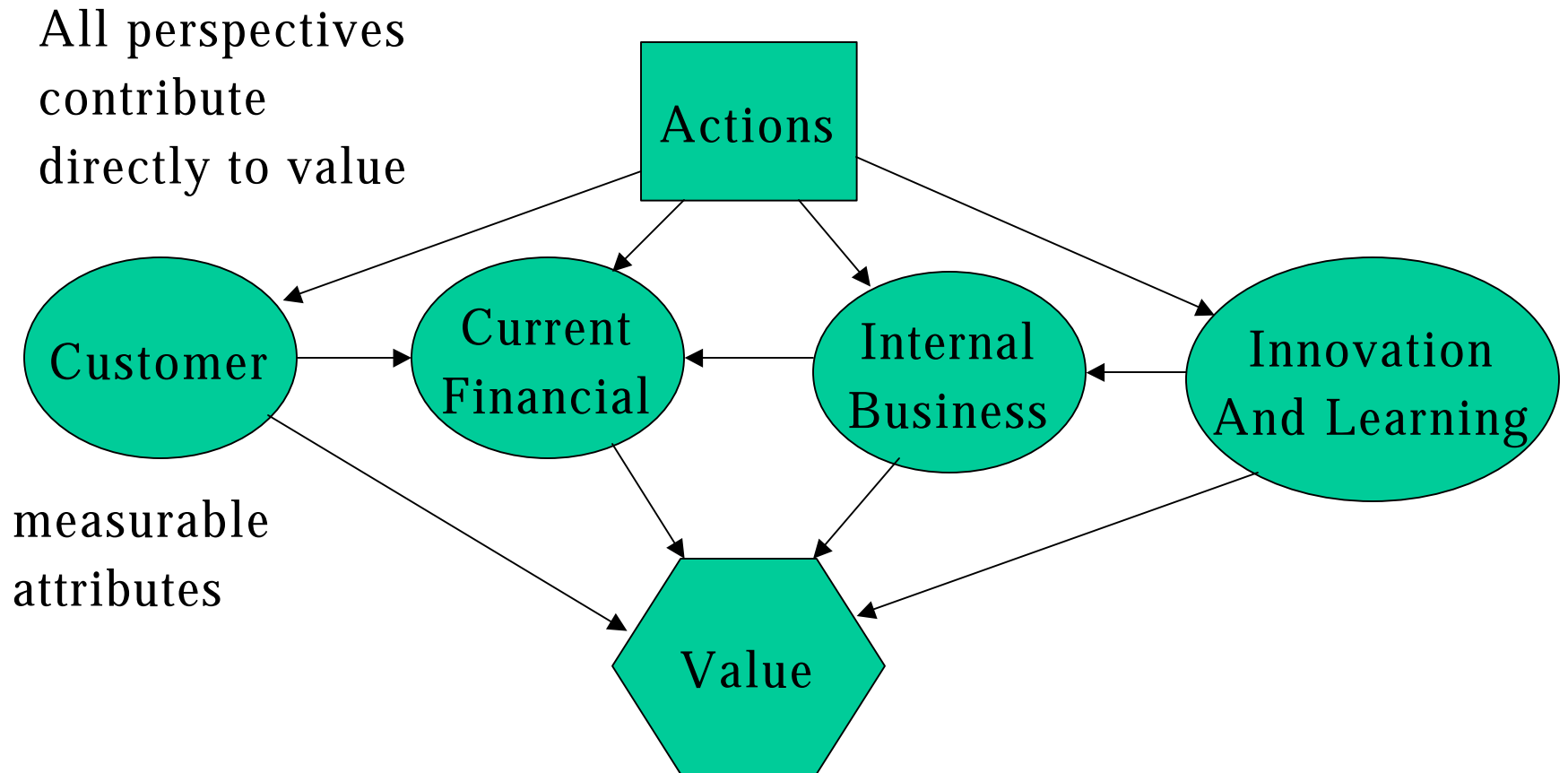
When Might DA Help Most?

- Stable process
 - even with rapidly changing technology
- Clarity in distinctions, measurements
- Value of clairvoyance
 - role of uncertainty vs. choice
- Implementing plan
 - vs. planning for change

Shareholder Value

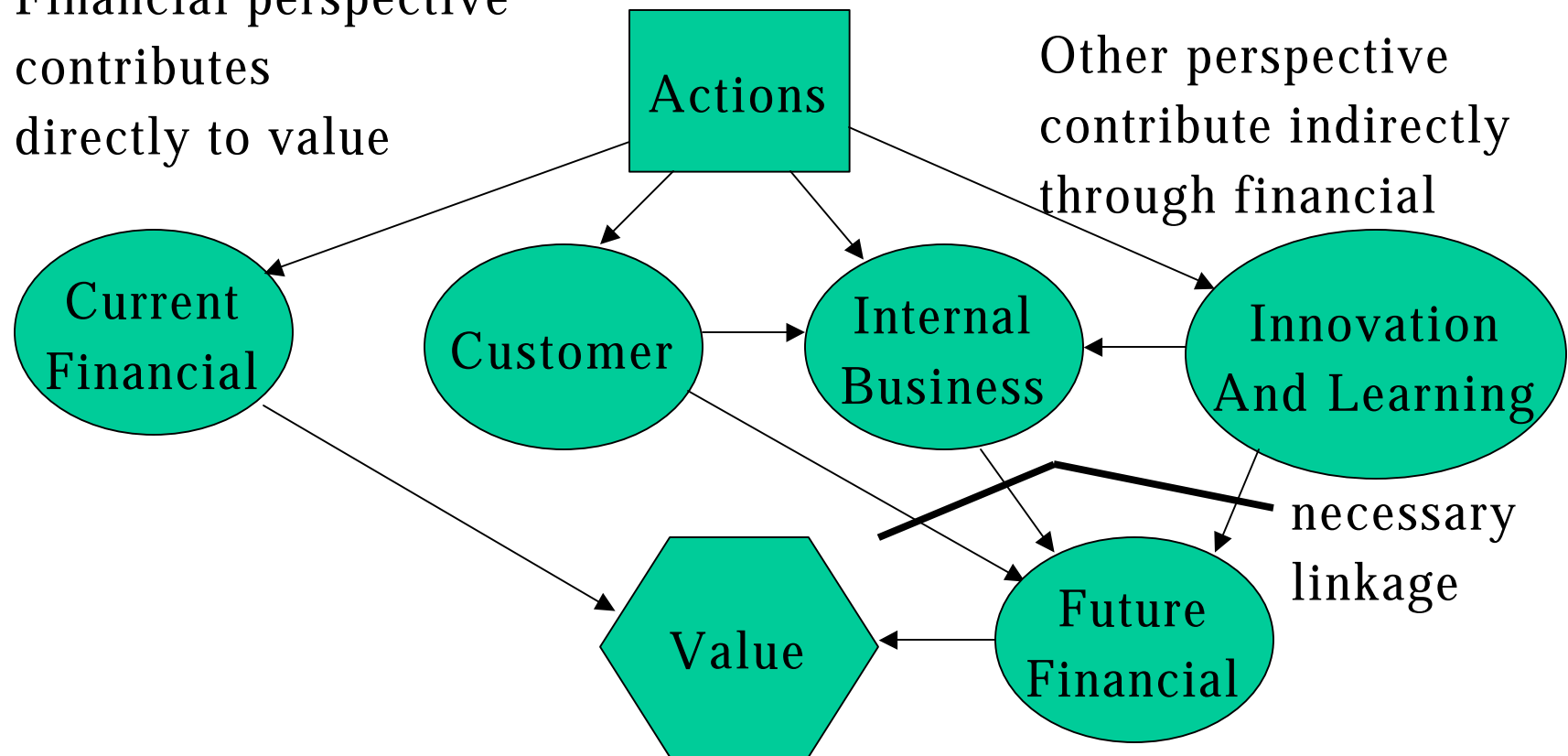
- Who is the Decision Maker?
- Are shareholder preferences homogeneous?
- Do shareholders seek financial performance above all else?
 - Trying to maximize NPV of future stock value?
- What value do they place on the other perspectives?

Objectives Hierarchy



Financial Surrogate

Financial perspective
contributes
directly to value



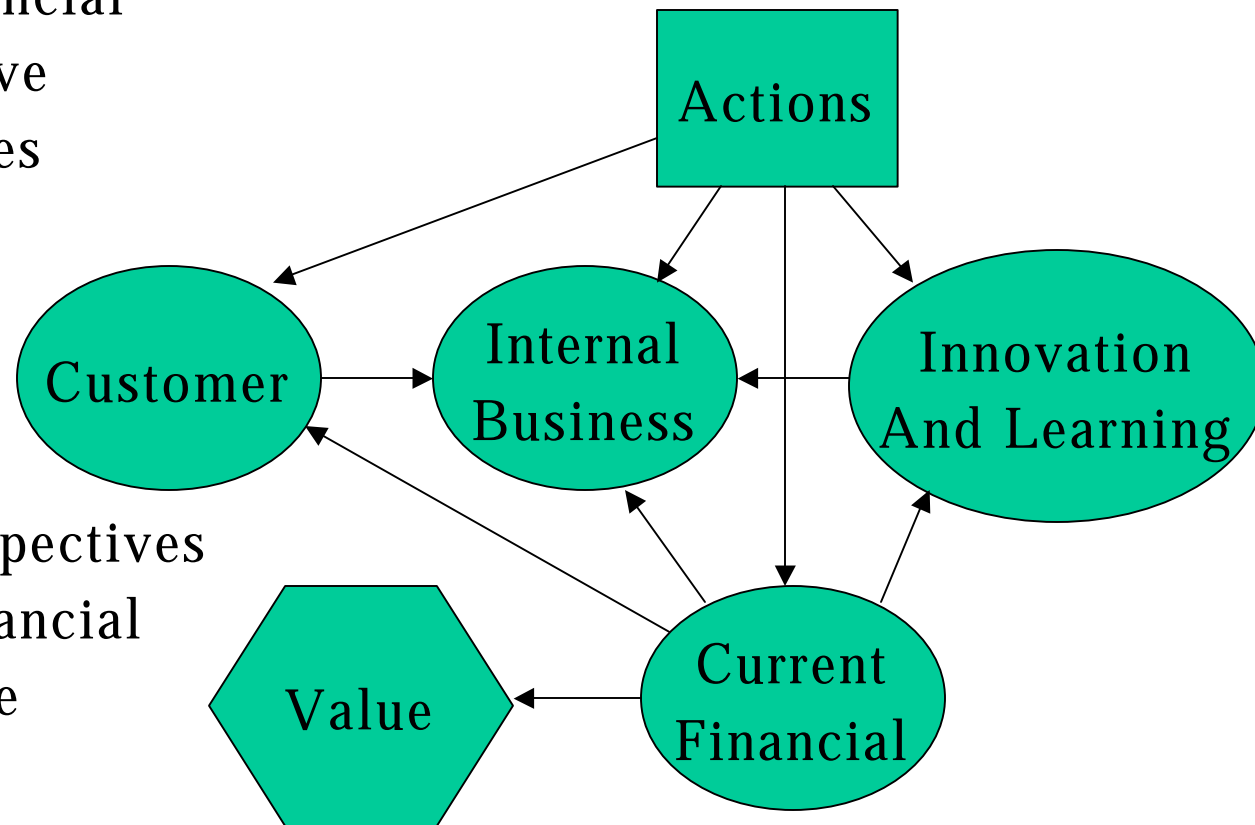
Other perspective
contribute indirectly
through financial

necessary
linkage

Financial Dominance

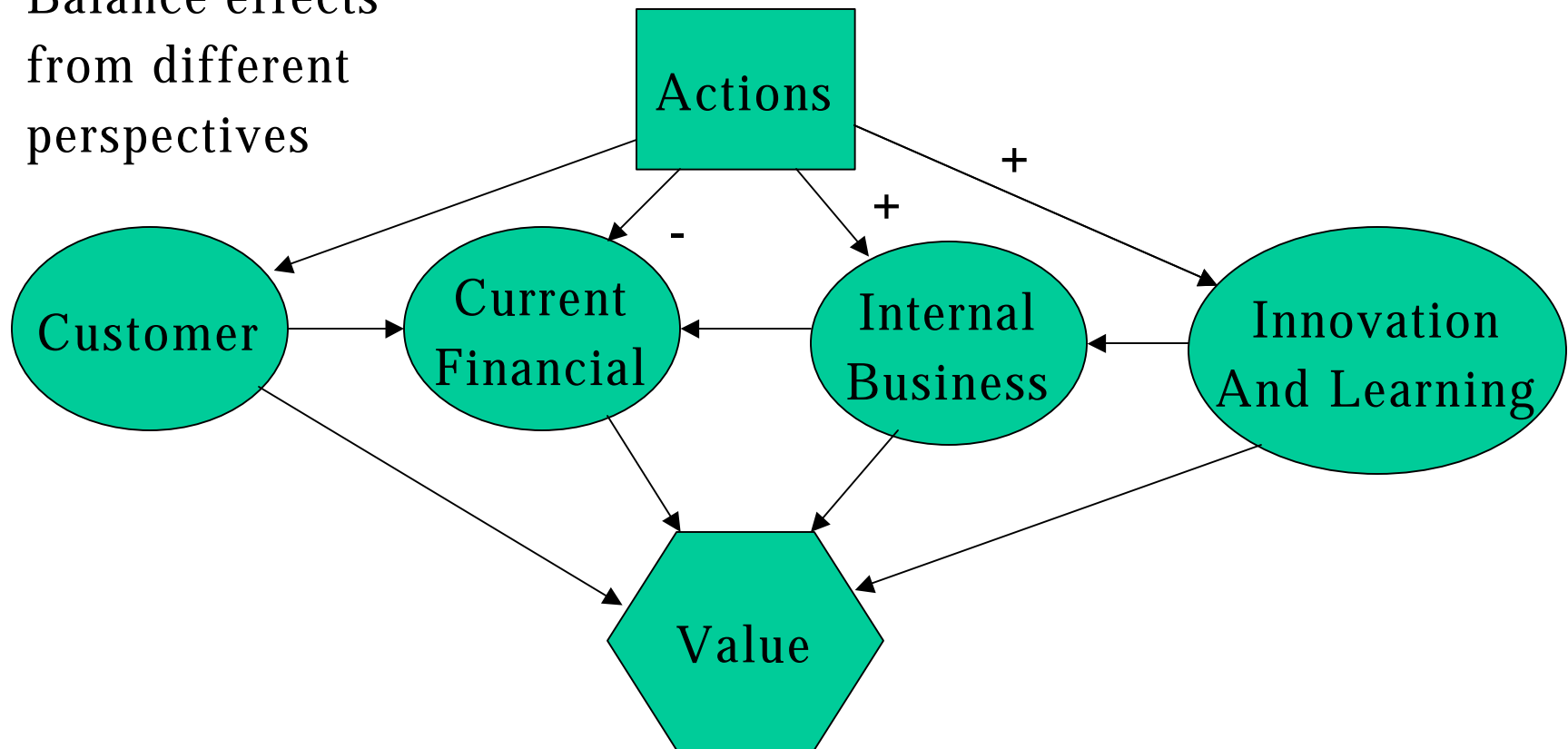
Only financial perspective contributes to value

Other perspectives inform financial perspective

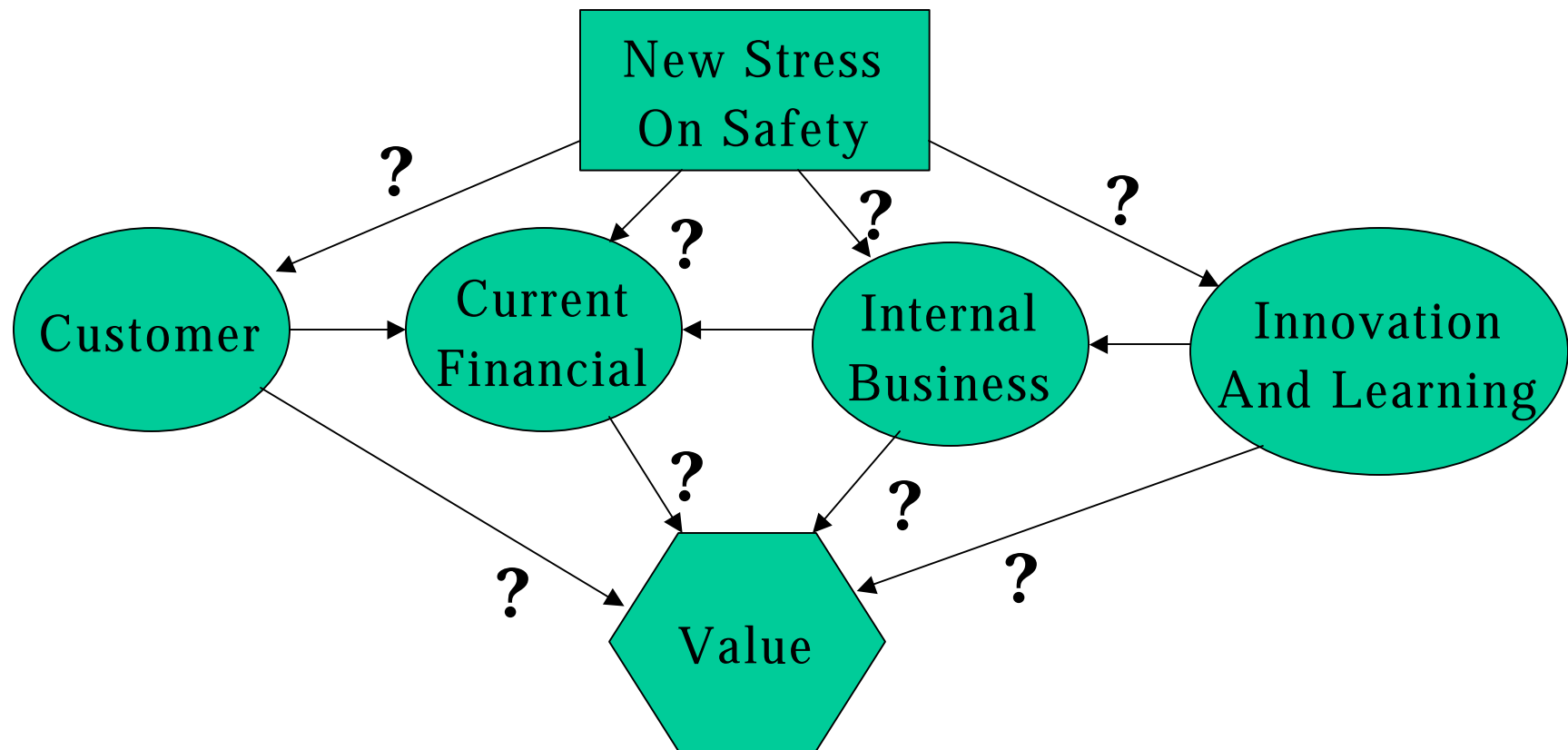


Strategic Tradeoffs

Balance effects
from different
perspectives



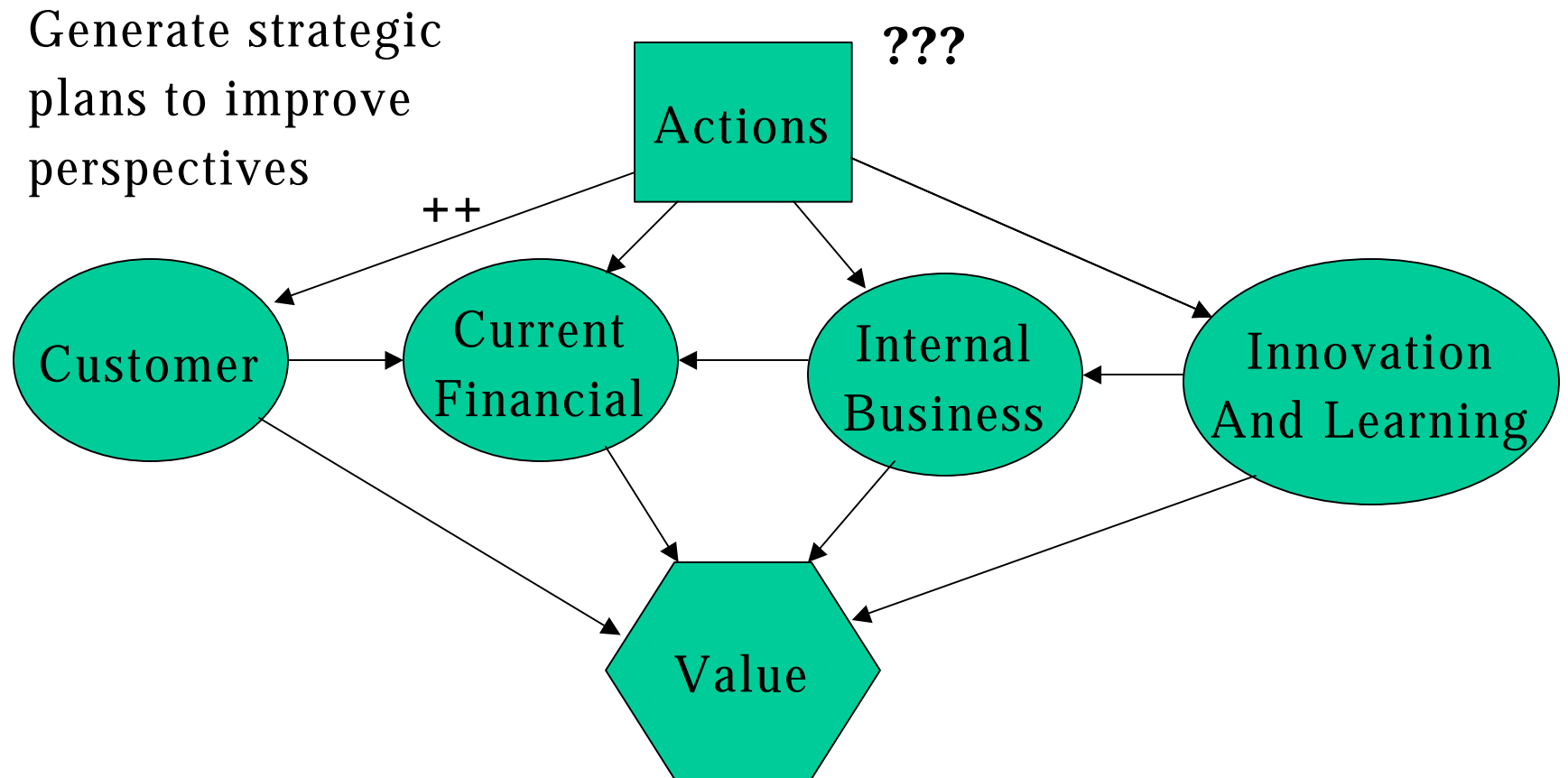
Quantifying the Balance



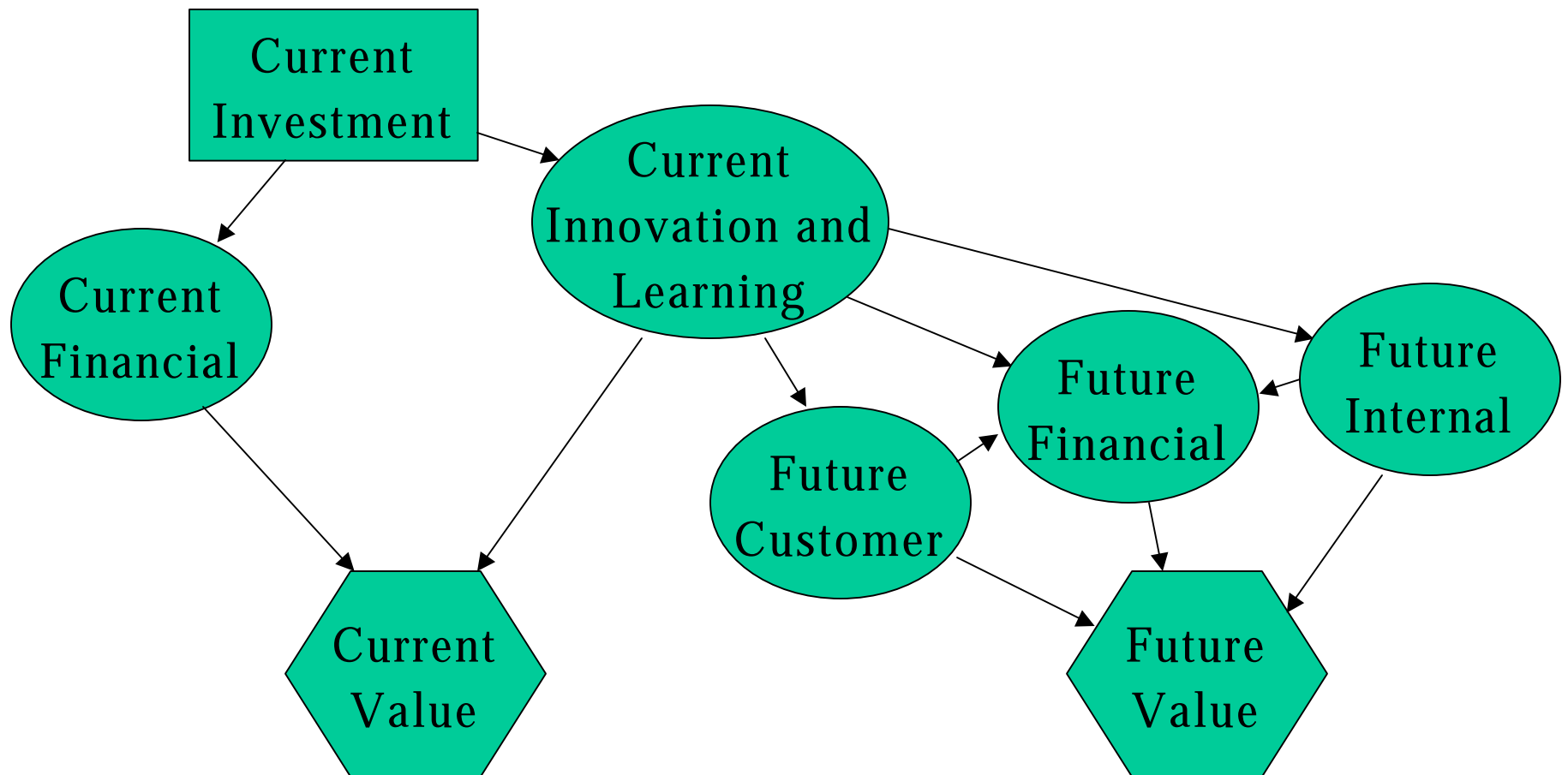
Quantifying the Balance

- Is the value in the measures on the scorecard or the weights we choose?
- Trade off
 - R&D, innovation: current vs. future profits
 - environment, safety vs. profits
 - customer satisfaction vs. cost
- Influence Diagrams provide template for these tradeoffs

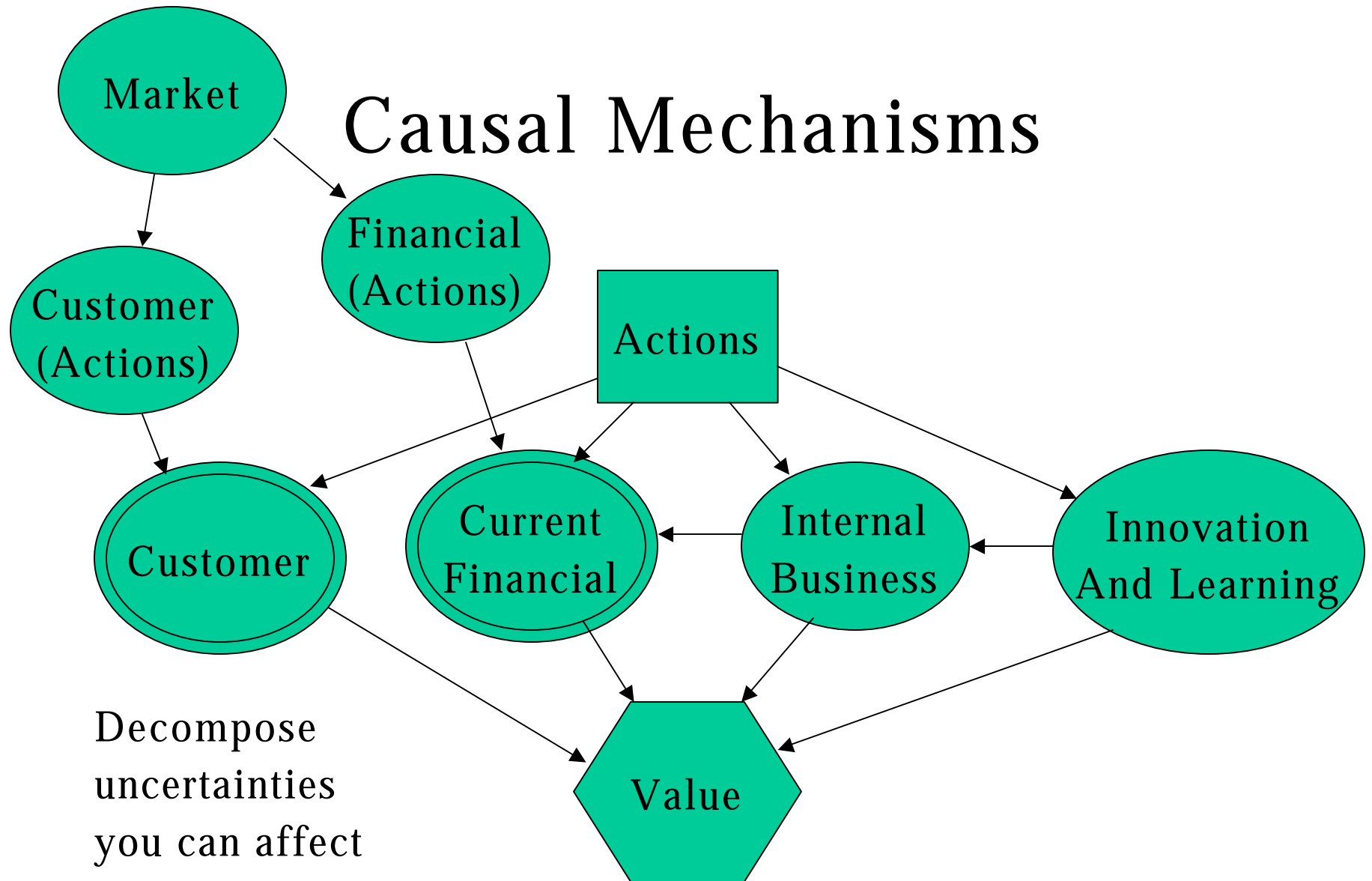
Alternative Generation



Creating a Spiral of Growth



Causal Mechanisms



Other Factors

- How do we incorporate strategic decisions about
 - Alliances, partnerships
 - Competitors
 - External Environment