

# **Disciplined Learning:**

## **The successor to risk reduction**

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People ...



Solving a problem  
Creating a solution  
Expressing ideas  
in a language

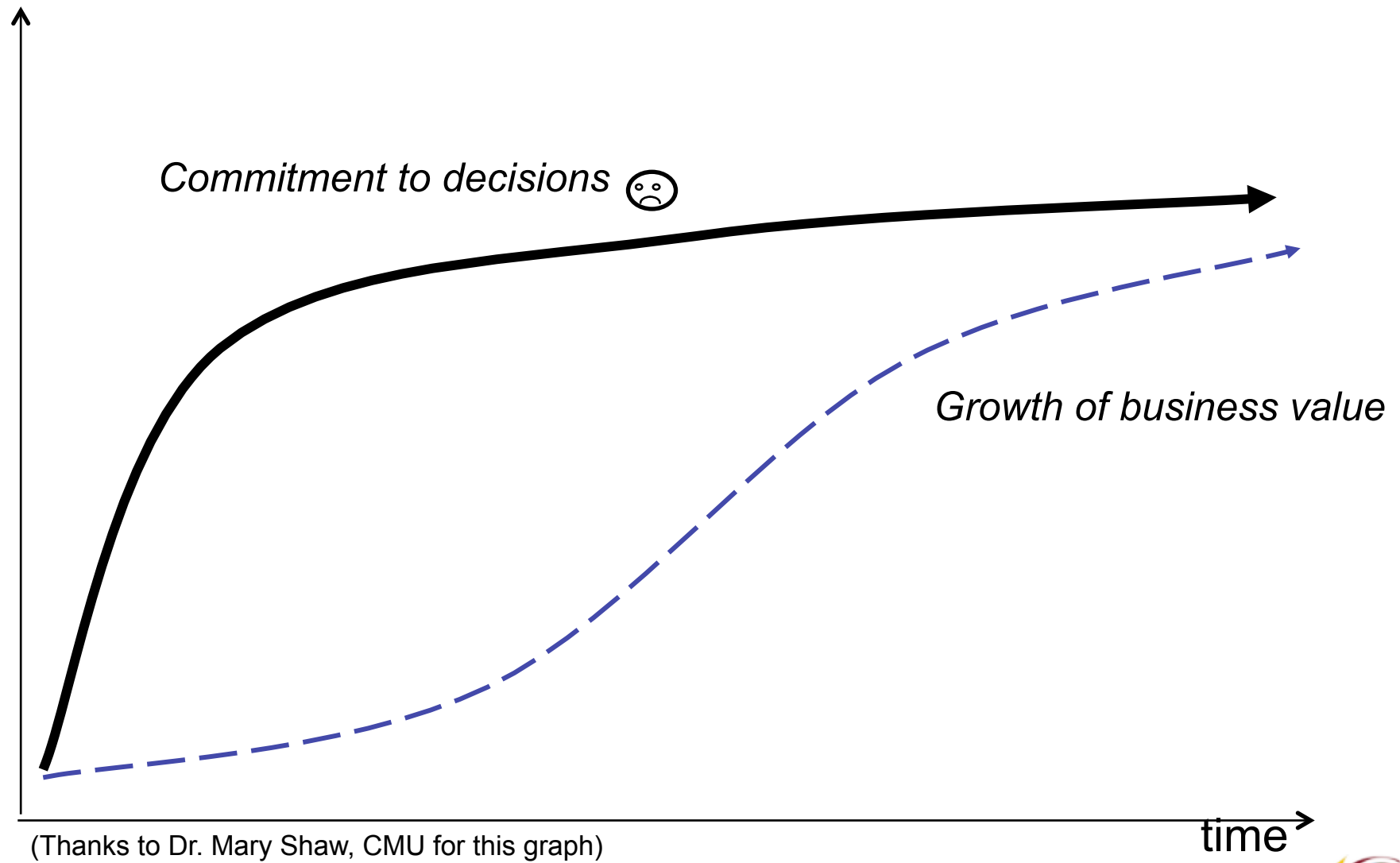
... they don't understand  
which keeps changing

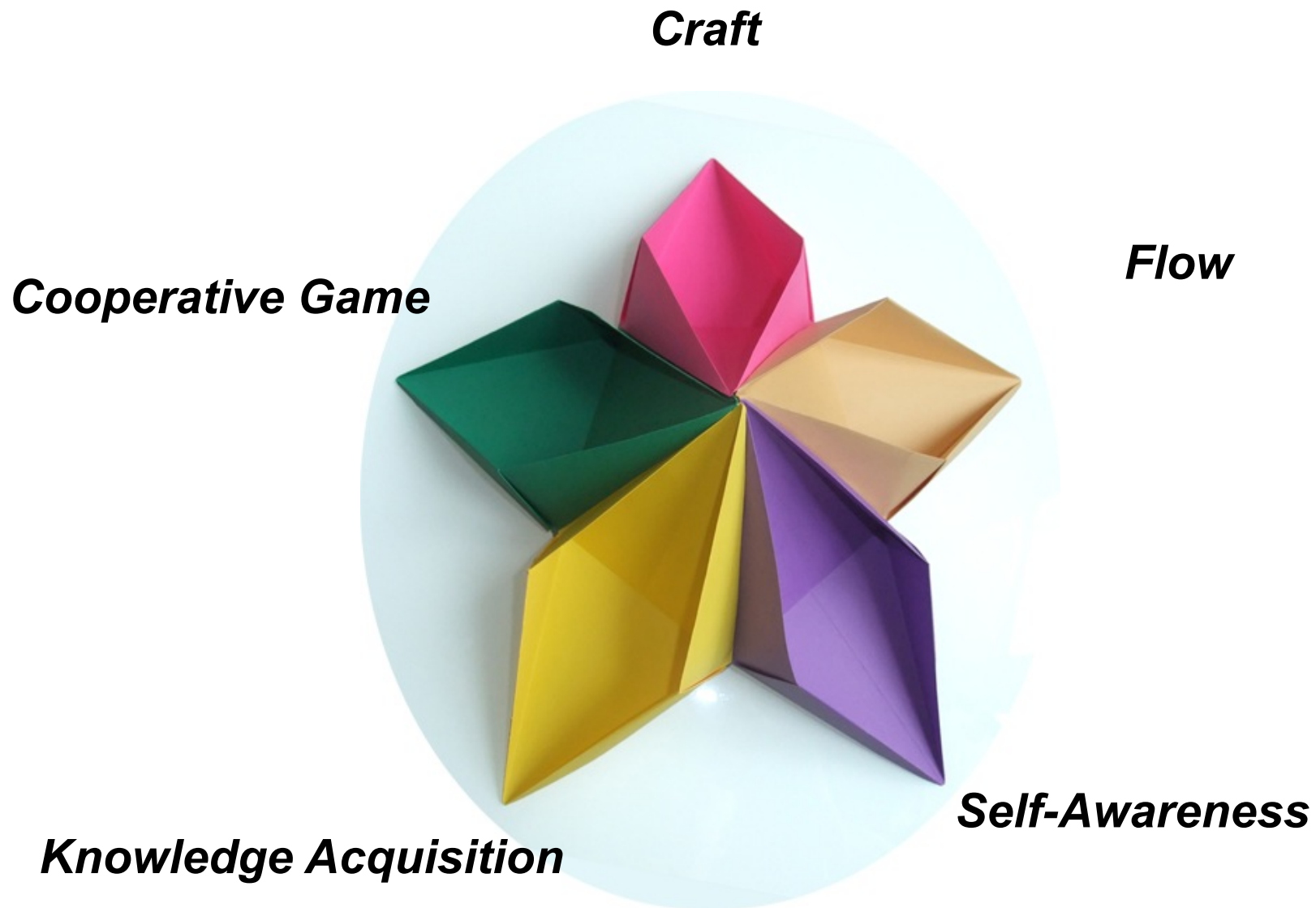
To an interpreter unforgiving of error

## Making decisions

Where every decision has economic consequences  
and resources are limited.







**Self Awareness:**  
**People don't match formulas**

Personalities

Self-Awareness (Personal)

Self-Awareness (Team)

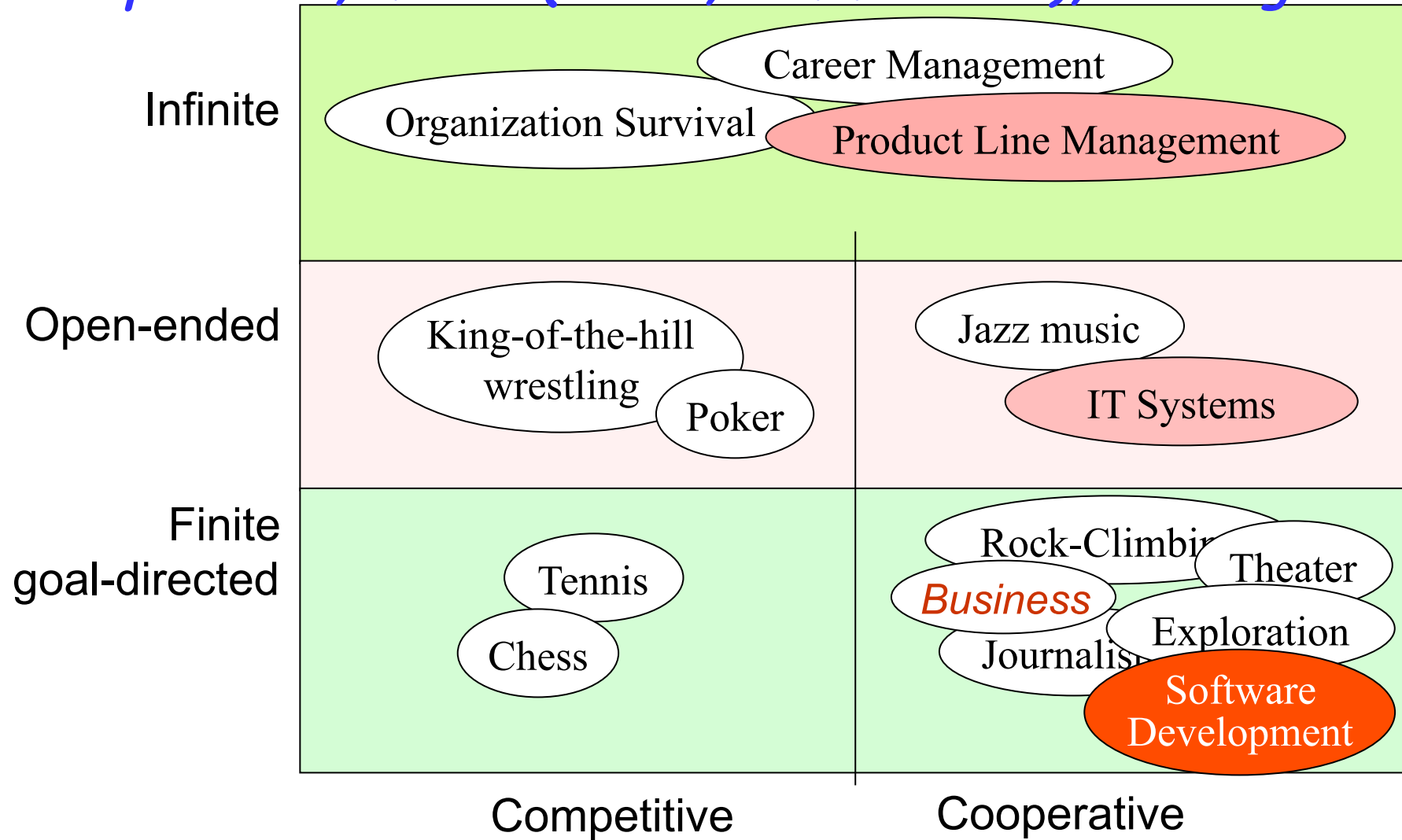
Process-in-reality

Reflective Improvement

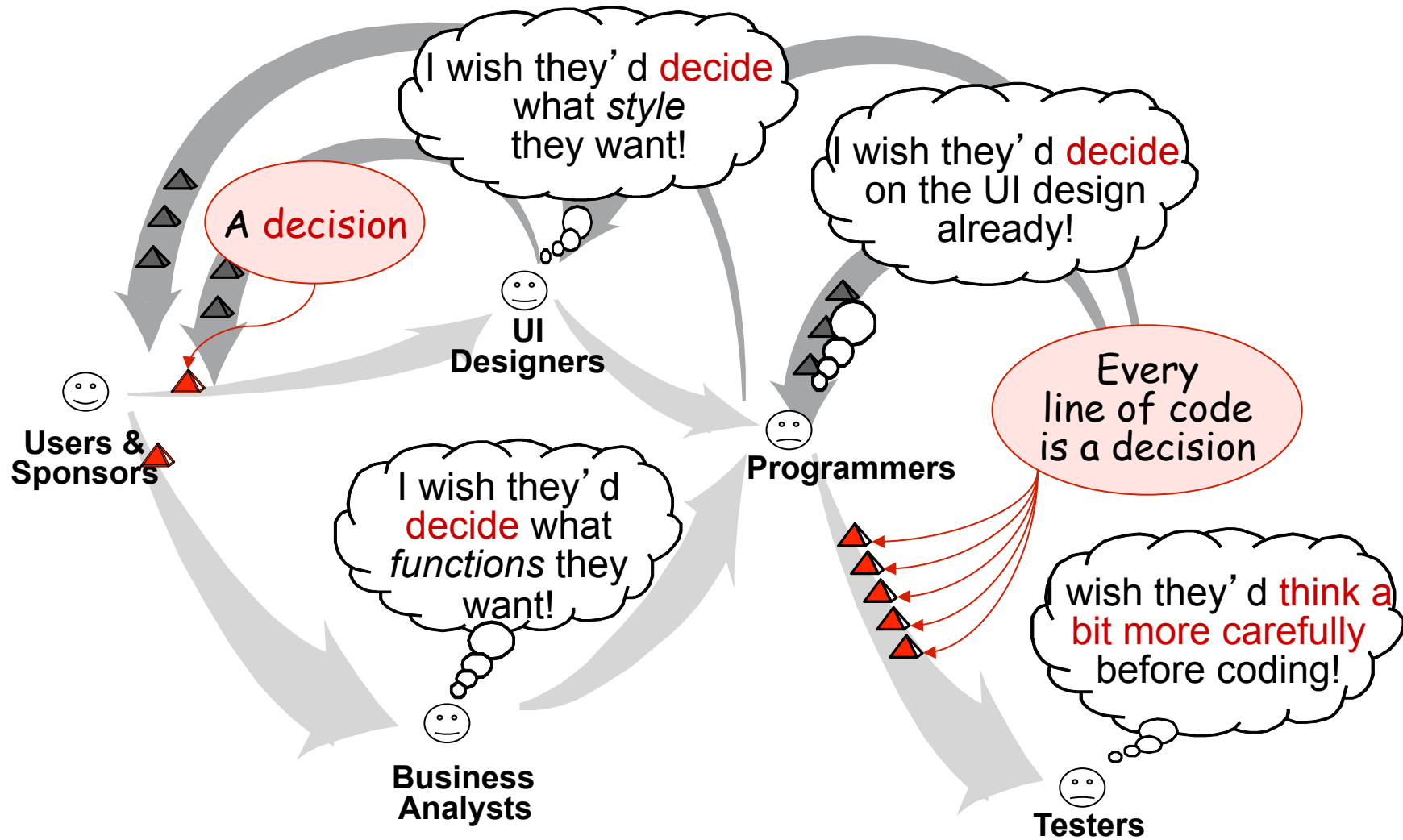
Keep these	Try these
Problems	

## Cooperative Games:

*positions, moves (invent, communicate), strategies*

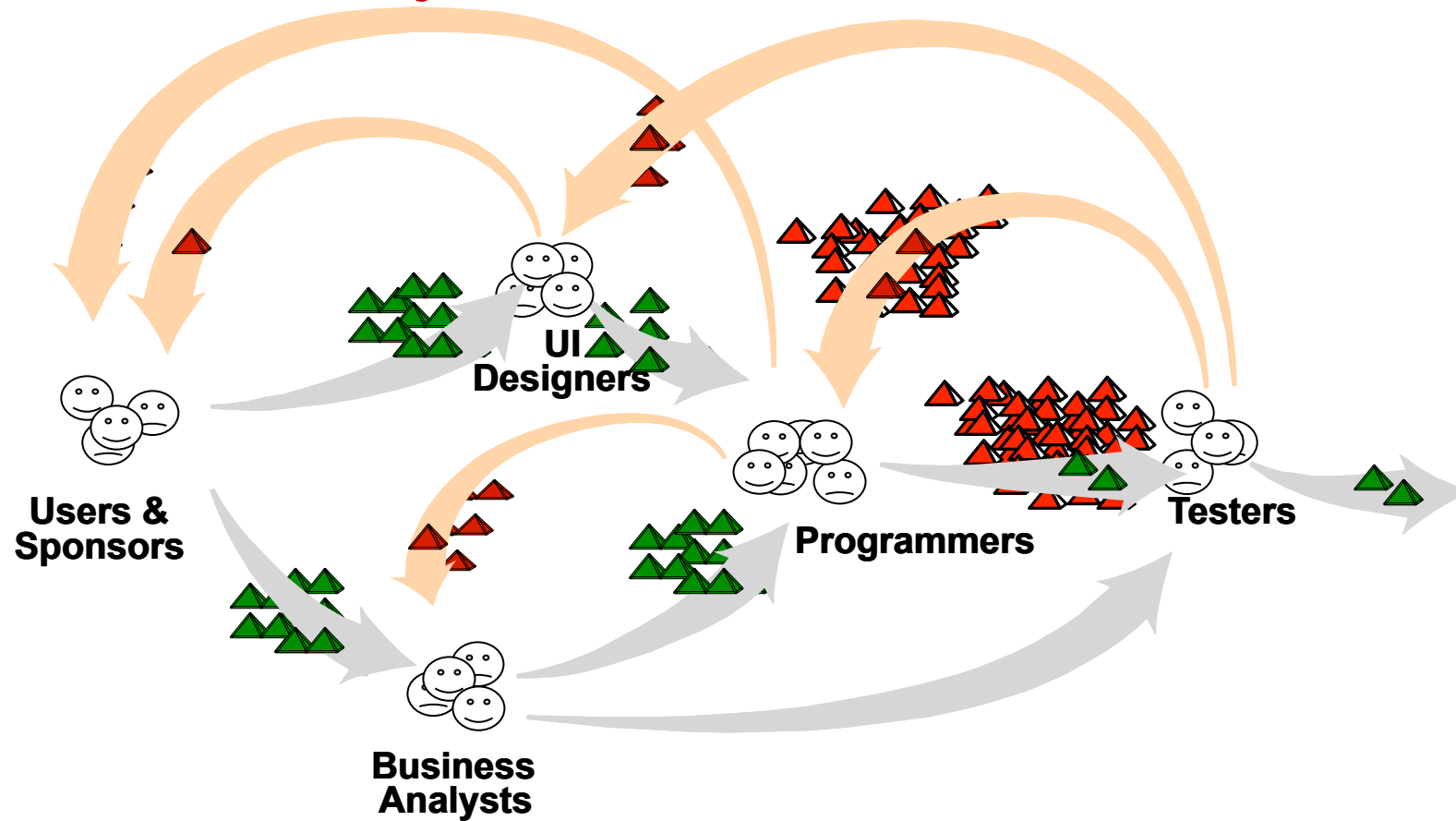


Flow:  
**Design=manufacturing if *Inventory=Decisions!***



## Flow: Global optimization

Convert **jam** to continuous flow.





Craft:  
People learn skills in 3 stages

守

Shu: *Learn* a technique

破

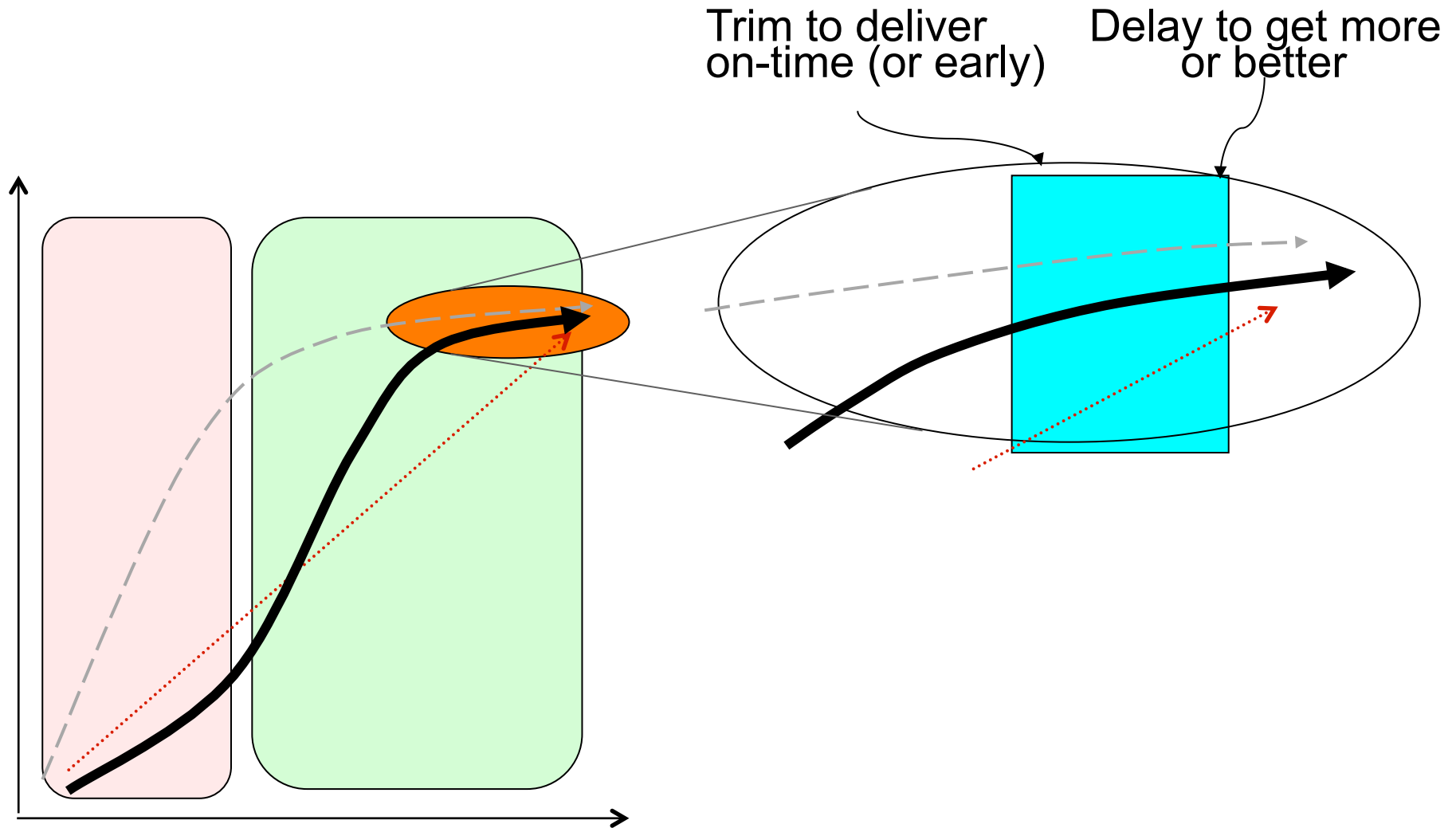
Ha: *Collect* techniques

離

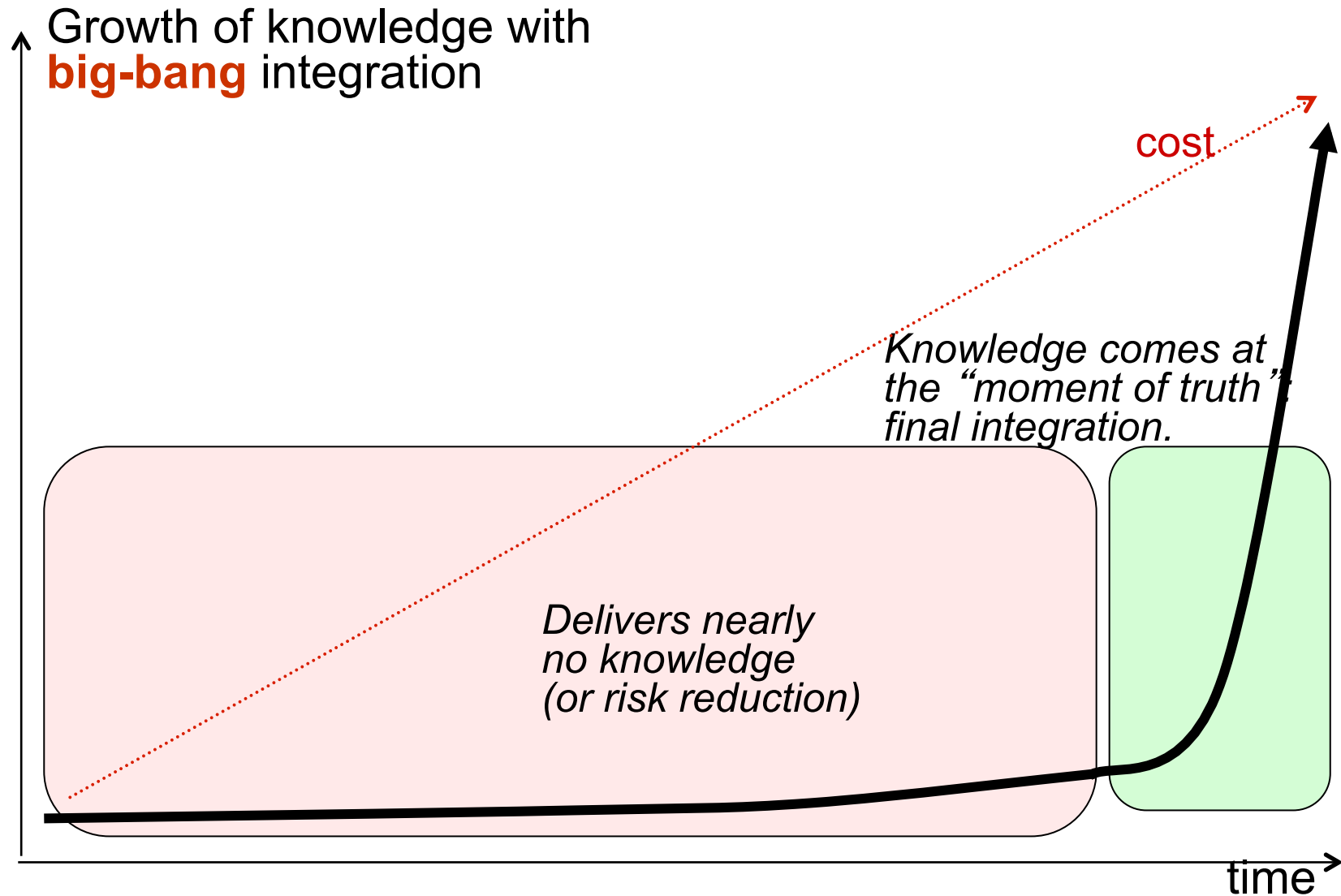
Ri: *Invent / blend* techniques

## Disciplined Knowledge Acquisition

*Payoff = Trim-the-Tail: Deliver by value or date*

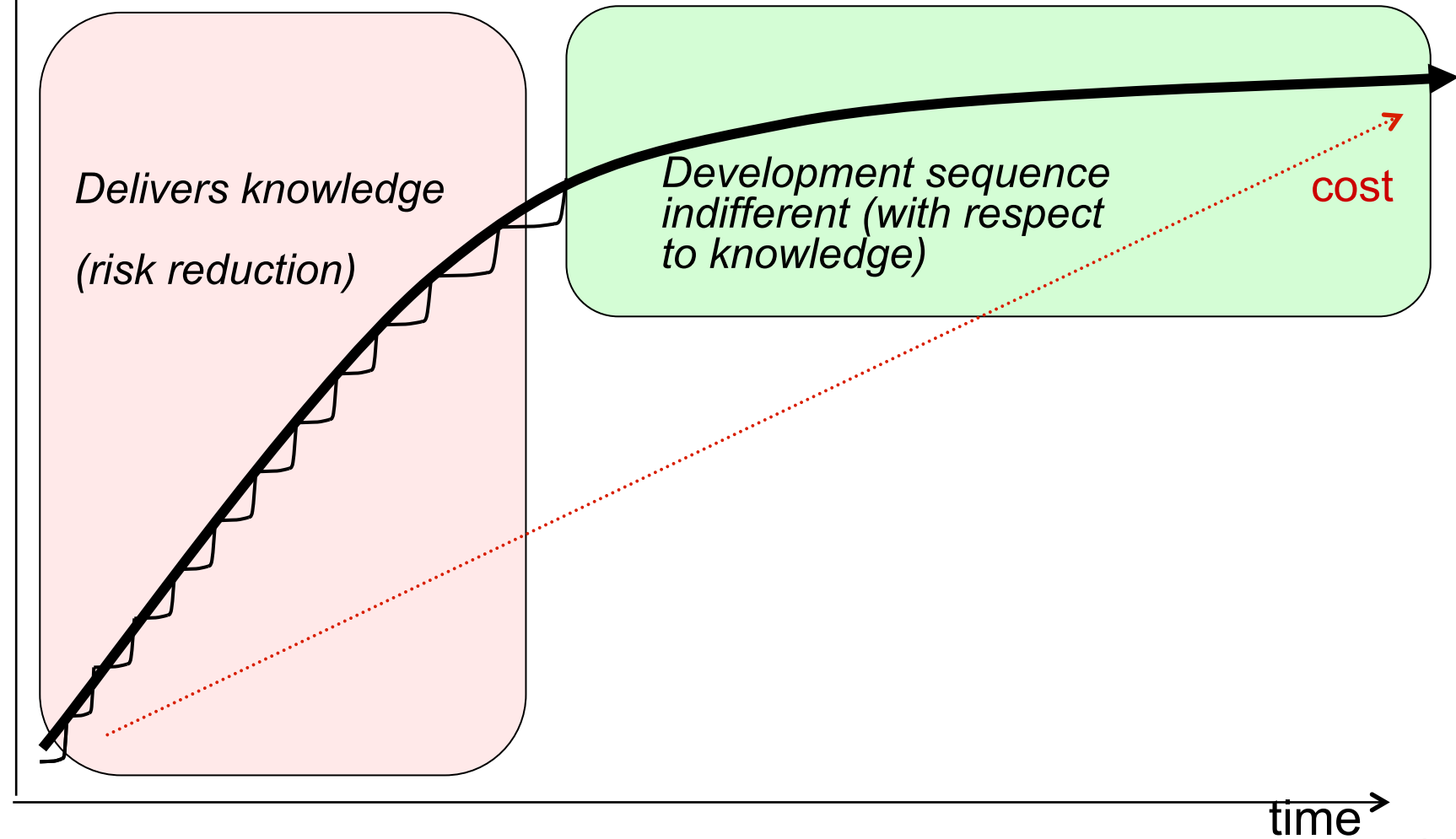


## Big-Bang Design is a *late-learning* strategy

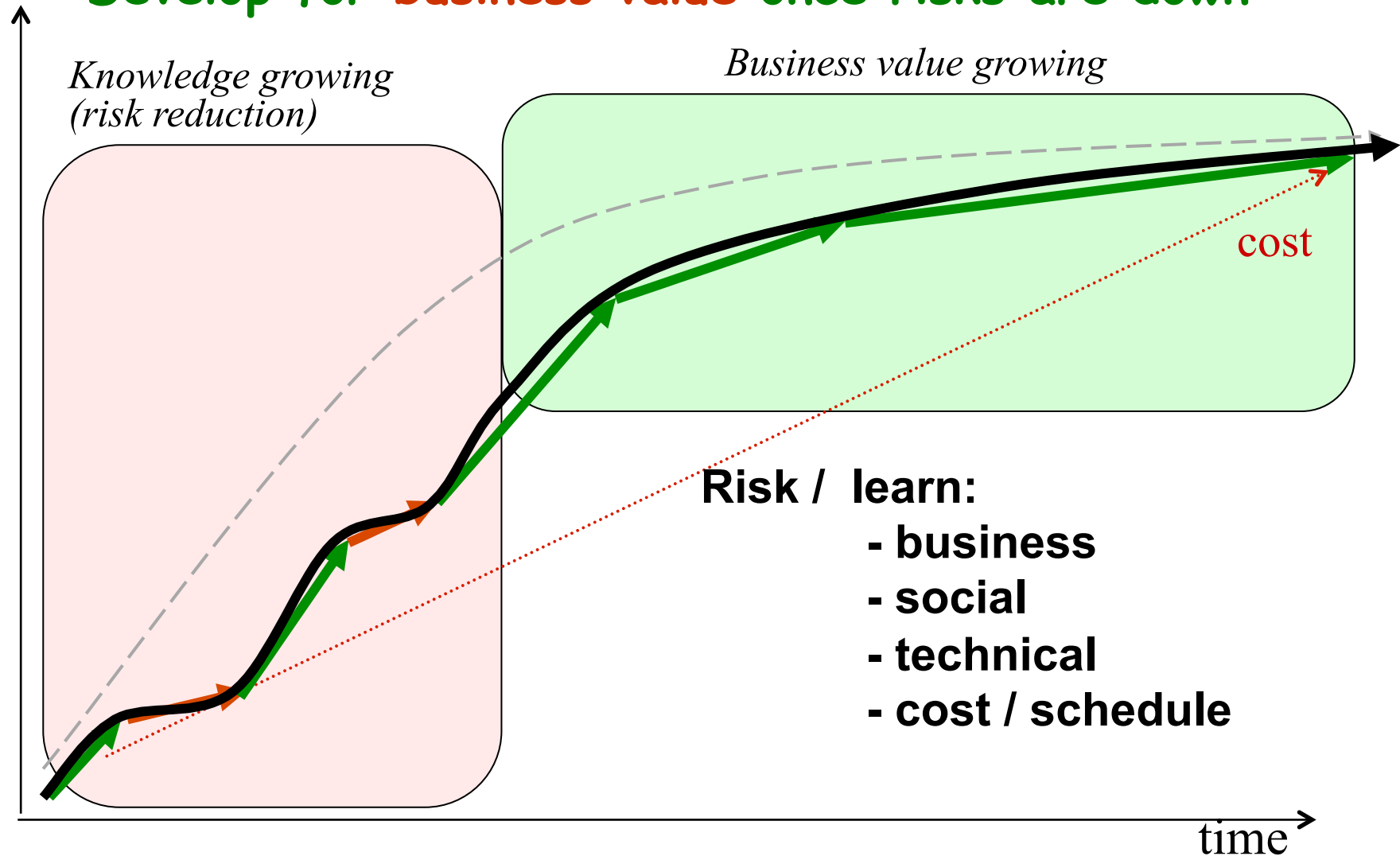


## We can pay to *learn* early in the project

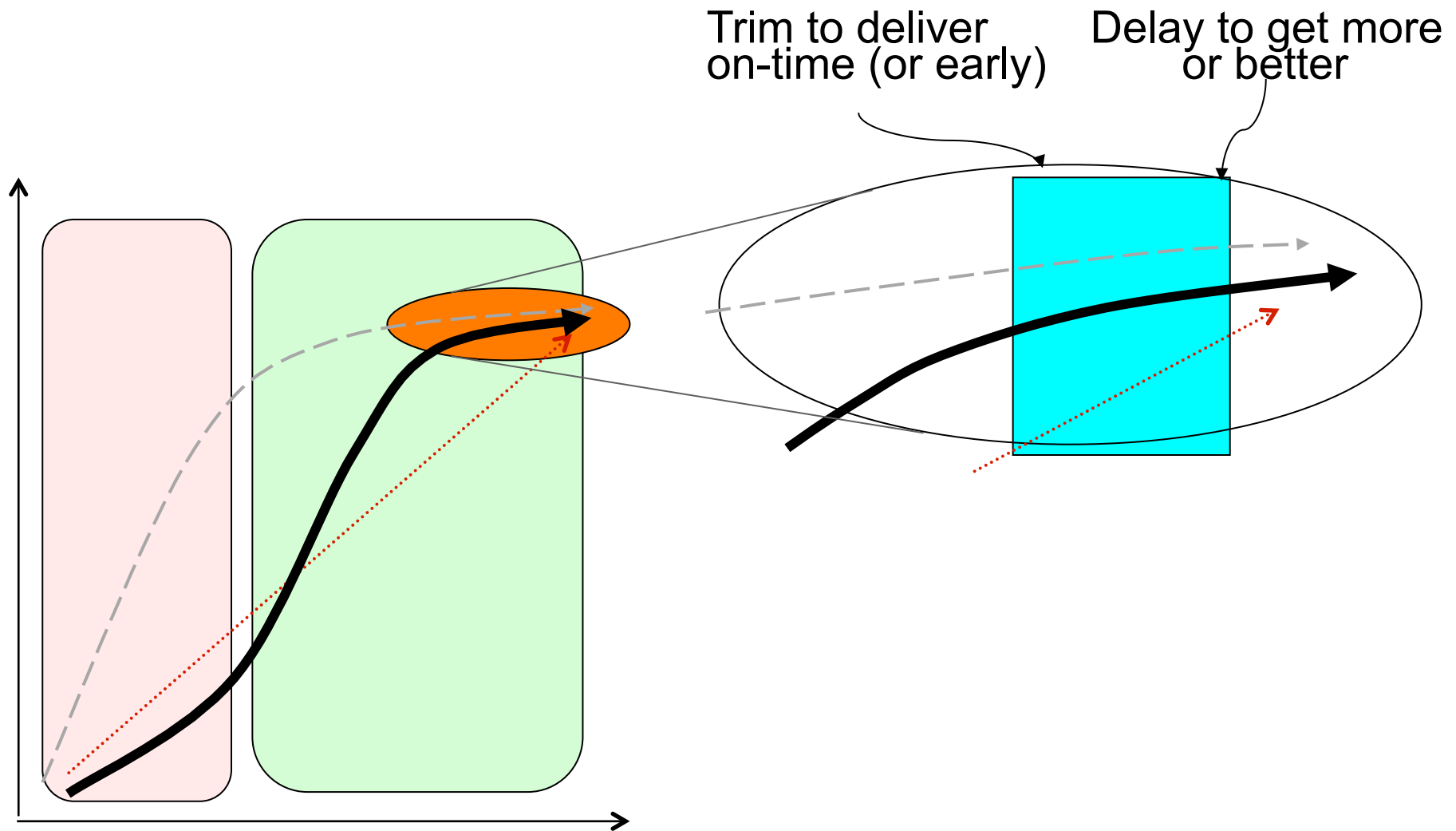
Growth of knowledge with  
*early, continuous* integration



## Develop for **business value** once risks are down



*Payoff = Trim-the-Tail: Deliver by value or date*



## Business Learning:

(Risk: Are we building the right thing?)

Learning: *What should we build?*

- Paper prototyping
- Ambassador user
- Early delivery
- Empty delivery and Manual delivery
- “Hothousing” - tunneling to feedback



## Social Learning:

**(Risk:** Can these people do the job?)

**Learning:** How can we make them a stronger team?

- Early victory
- "Walking Skeleton"
- "Simplest first, worst second" [AC-sfws]

## Technical Learning:

(Risk: Why won't our beautiful design work?)

Learning: *How do we correct it so it works?*

- Micro-incremental development
- Walking skeleton
- Spikes
- Story splitting

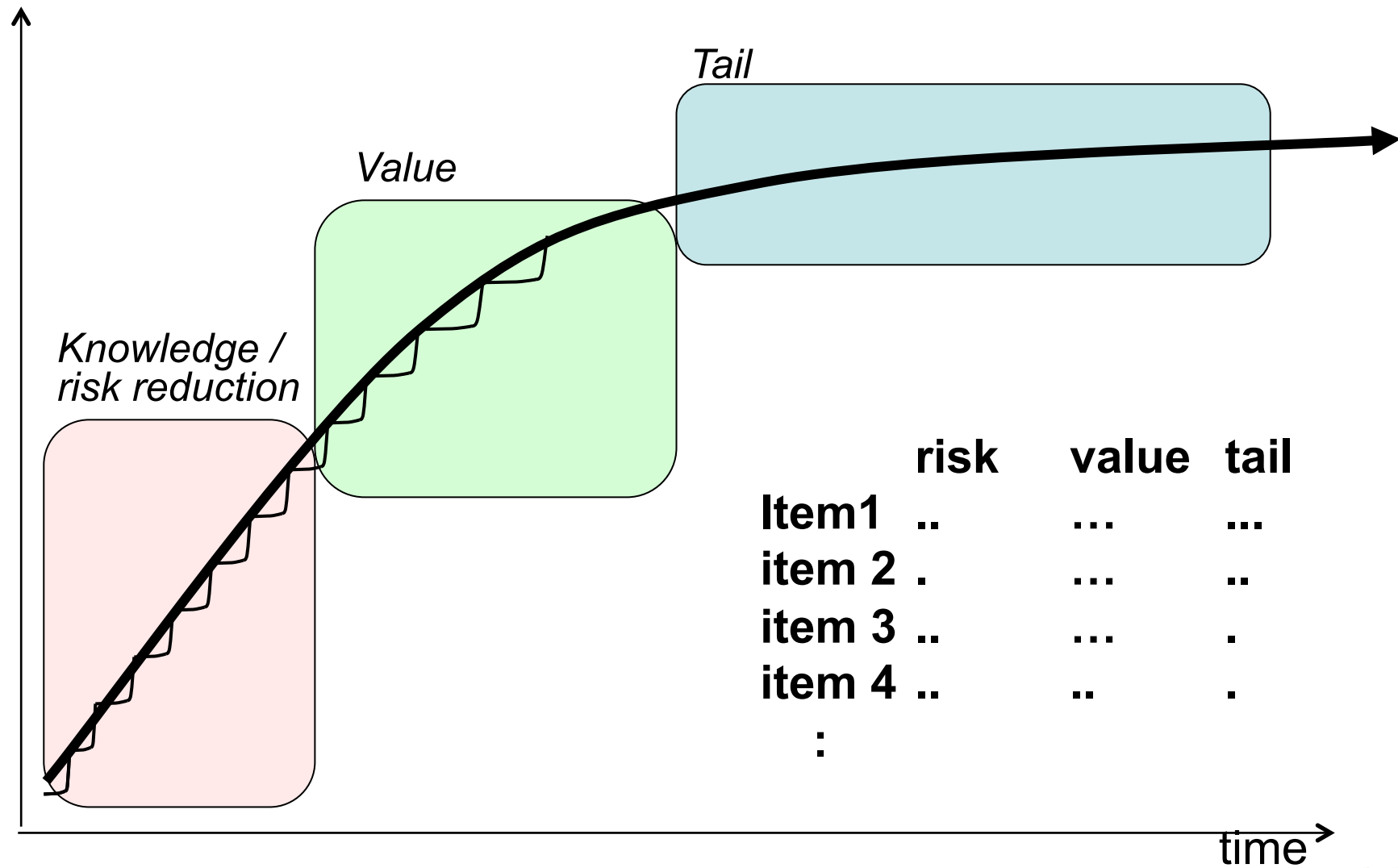
## Cost / schedule Learning:

(Risk: Will we deliver it on time/budget?)

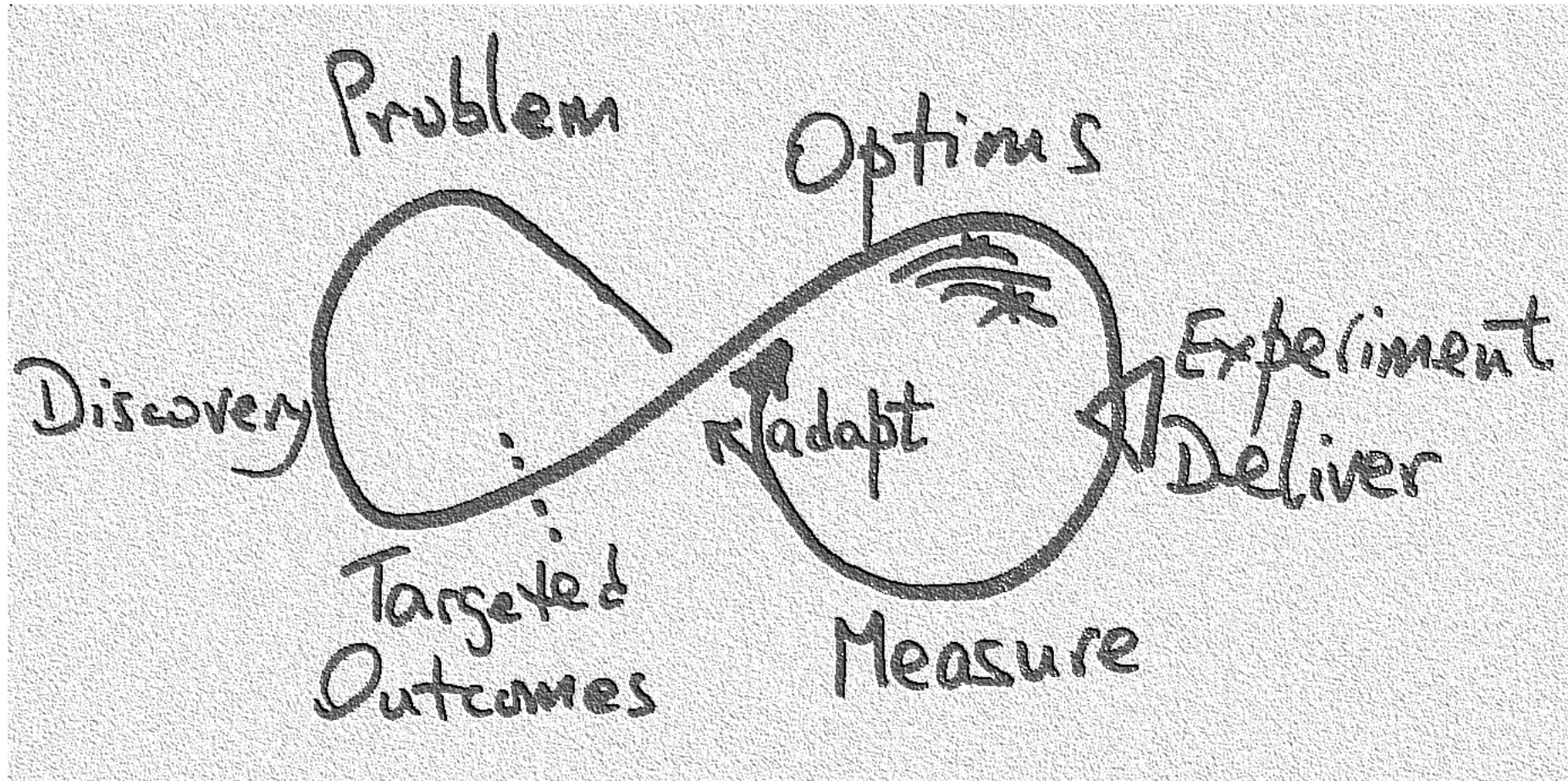
Learning: *How long will this really take?*

- Core Samples
- Microcosm

## Three stages per feature: Risk, Value, Tail

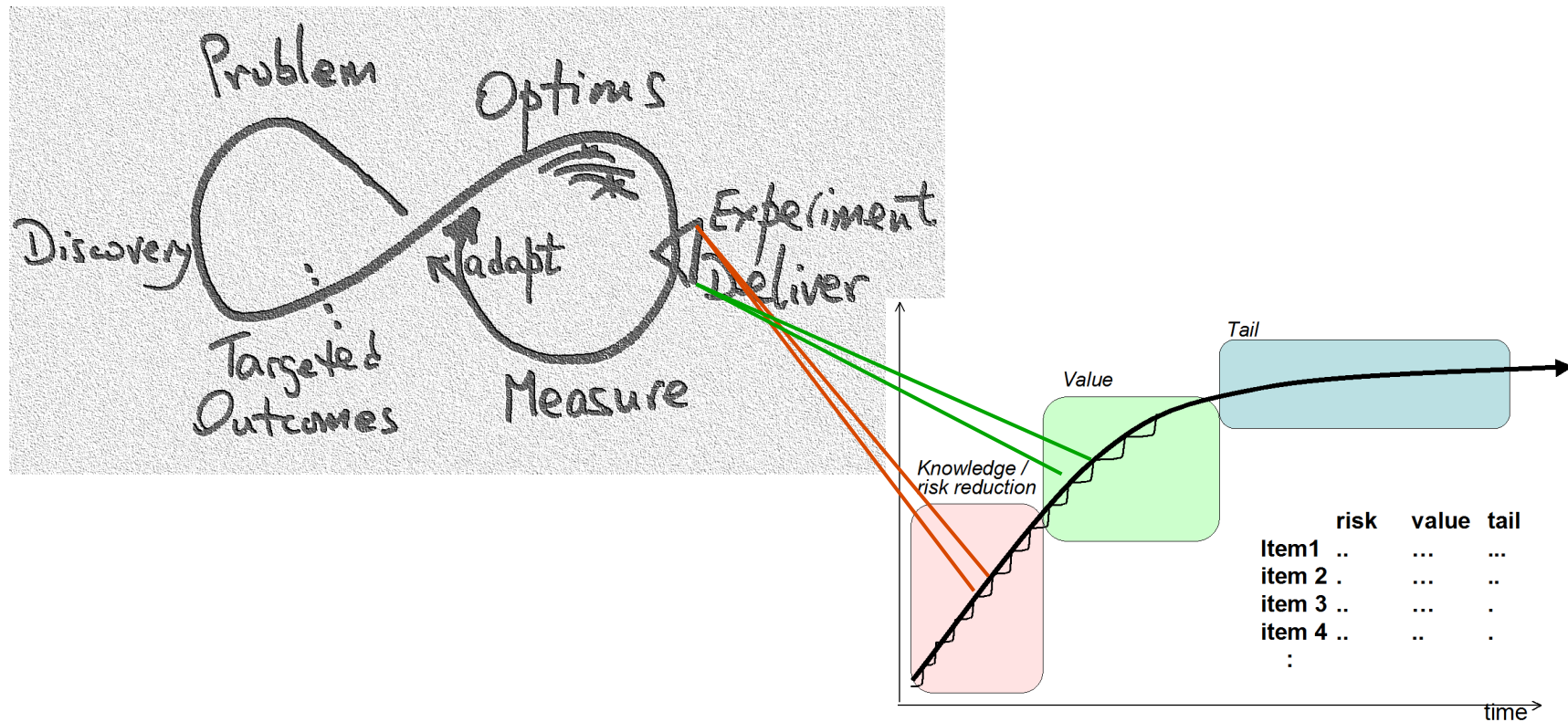


Extended by G. Benefield's **Outcomes-Options** model





# Extended by G. Benefield's Outcomes-Options model



## Learn Early Learn Often : beyond risk reduction

*<http://alistair.cockburn.us/Disciplined+Learning>*