# *Explaining the hard value of agile and lean development*

# *Presenters*

**Dave Nicolette**
Senior Consultant
Valtech Technologies

**Jürgen Ahting**
Managing Director
Ahting Media Consulting GmbH

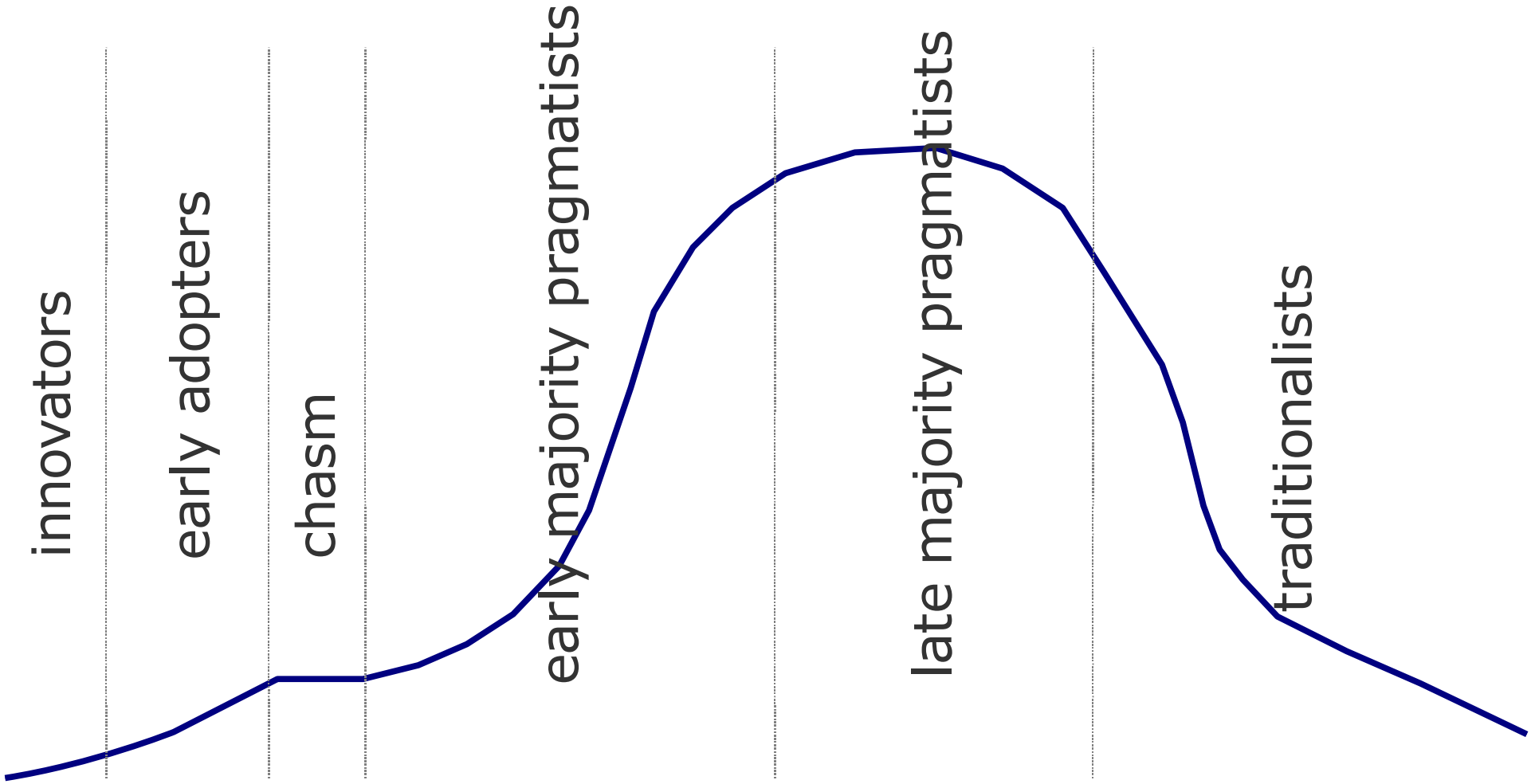
# *The hard value of agile and lean methods*

- **Where** do we stand in 2006?
- **Why** are companies interested in new methods?
- **What** is "hard value" and how is it measured?
- **How** do agile and lean methods deliver value?
- **Who** is affected by change and what do they fear?
- **How** do we explain the value to various constituencies?

## *Where do we stand in 2006?*

- Traditional methods still dominate
- Almost 90% of companies have experimented with agile methods
- < 20% of companies have taken agile beyond proof-of-concept
- About 12% of companies see no value in agile methods

# *Agile on the innovation adoption curve*




near-/mid-term future

2006

through 2005

# *Why are companies interested in new methods?*

1. Shorter time to market
2. Improved quality
3. Alignment with business needs
4. Reduced costs

# *What is "hard value?"*

Hard value = improved financial performance

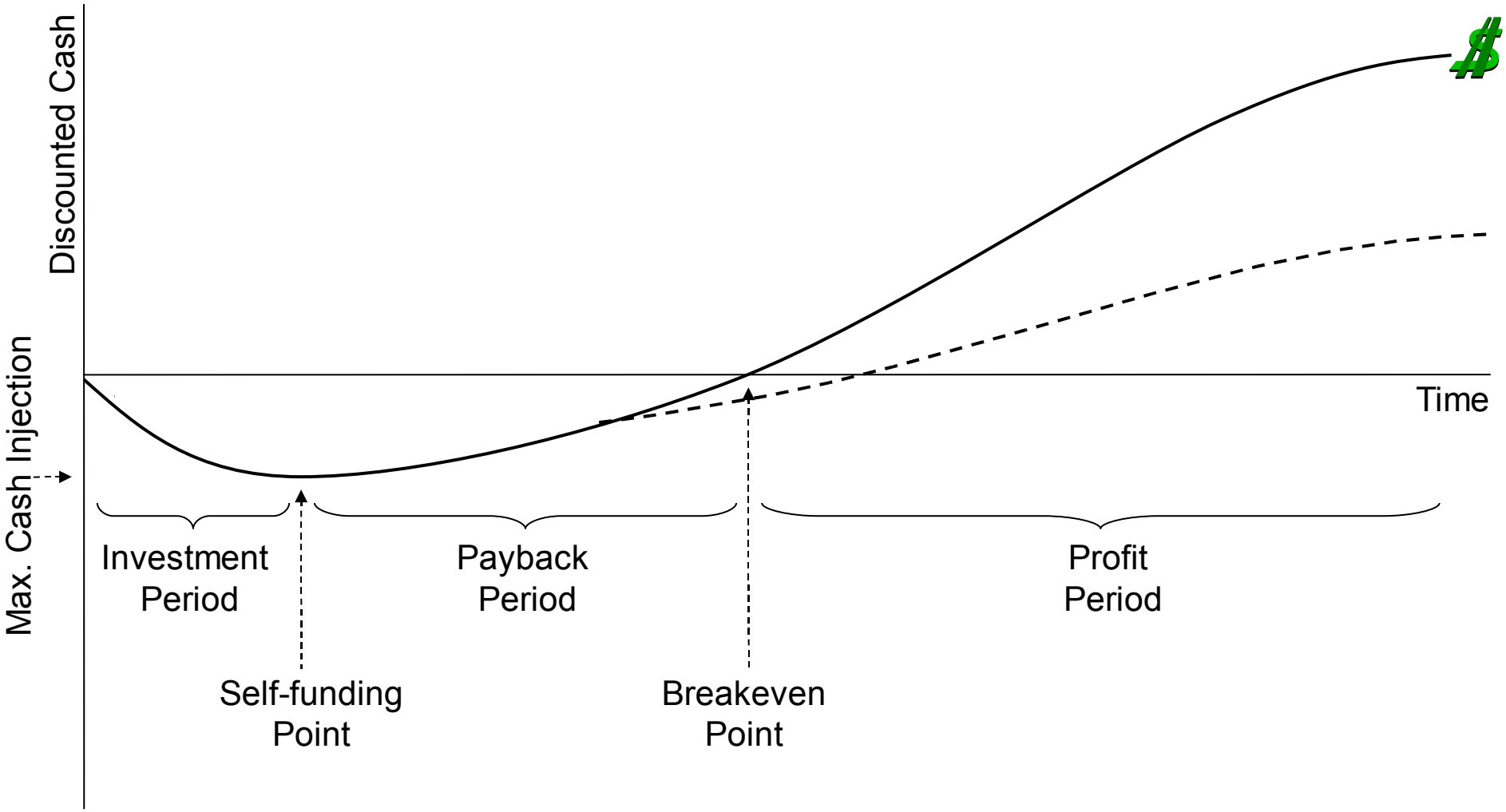
*Profit center…*

Increased revenue

*Cost center…*

Reduced expenses

# Project financing



# *Basic financial calculations*

- **Return on Investment (ROI)**

  How much profit I attain from my investment.

  As a percentage of the investment.

- **Present Value (PV)**

  Current value of future money.

  PV = x€ / $(1 + z\%/100)^n$, x€: Value of money, z%: Interest, n: Number of years

  Ex.: At 5% interest, in 20 years 1 million € will be worth as much as approx. 377.000€ in today's money.

- **Discounted Cash Flow (DCF)**

  Amount of PV in the course of a project.

- **Net Present Value (NPV)**

  Sum of PV in a DCF.

- **Internal Rate of Return (IRR)**

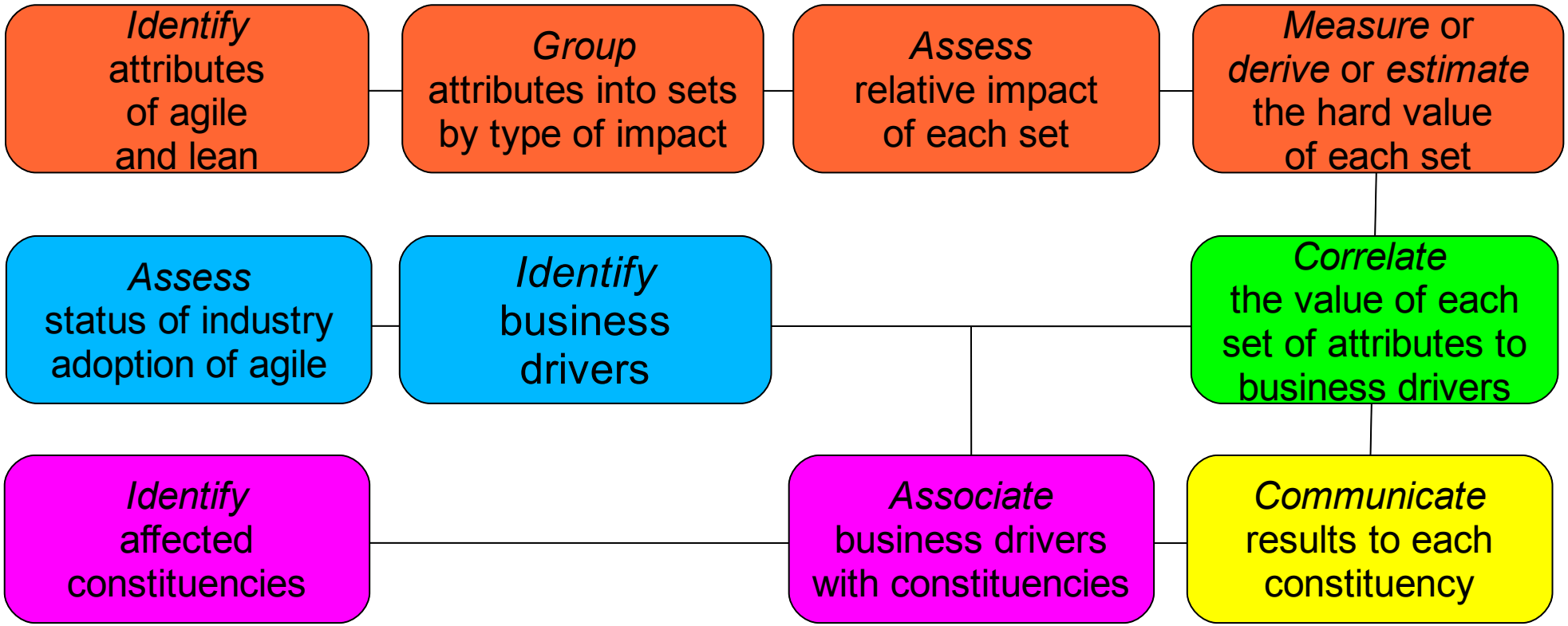
  The interest rate one must earn on the investment in order to realize a profit on the project.

# *Reference*

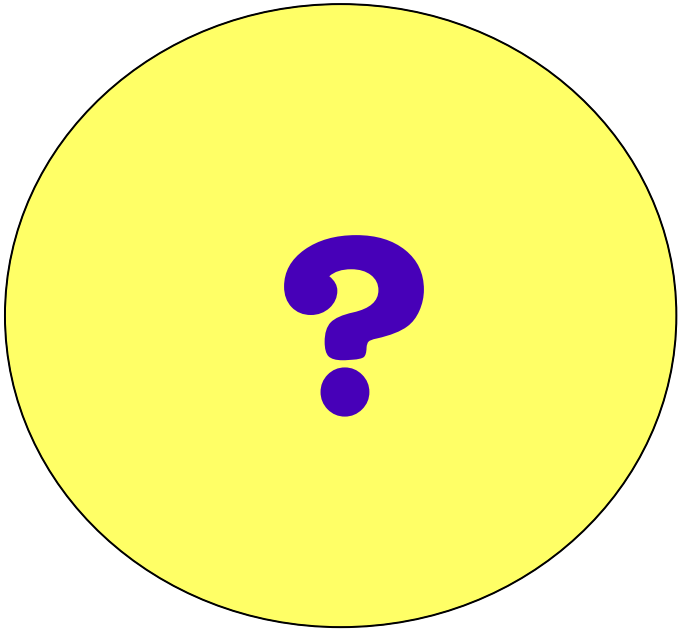
Mark Denne, Jane Cleland-Huang: Software by Numbers

http://www.SoftwareByNumbers.org

# Roadmap for assessing hard value



# *Attributes of agile/lean methods*



# *Level*

- Culture
- Process
- Methodology

# *Attributes of organizational culture*

- Trust people more than process
- Transparency
- Team collaboration
- Direct customer involvement
- Team collocation
- Change is normal
- Continuous improvement

# *Attributes of the management process*

- Lightweight process
- Iterative / incremental
- Self-organizing team
- Dedicated team
- Sustainable pace
- Theory Y management style
- Effective metrics

# *Attributes of development methodology*

- Continuous integration
- Test-driven development
- Simple design
- Coding standards
- Metaphor
- Code reviews
- Collective ownership
- Pair programming

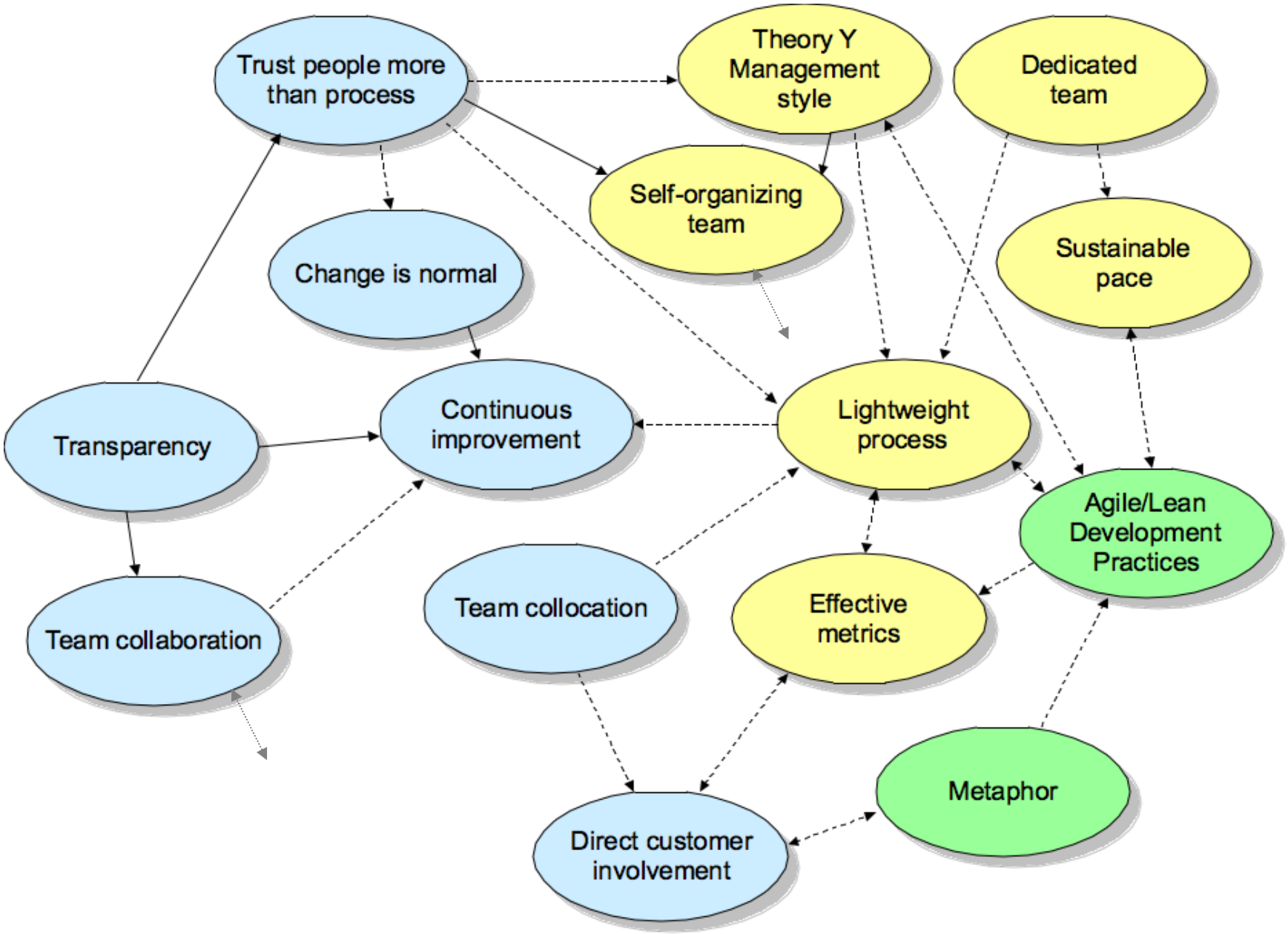
# *Impact*

- Direct
- Indirect

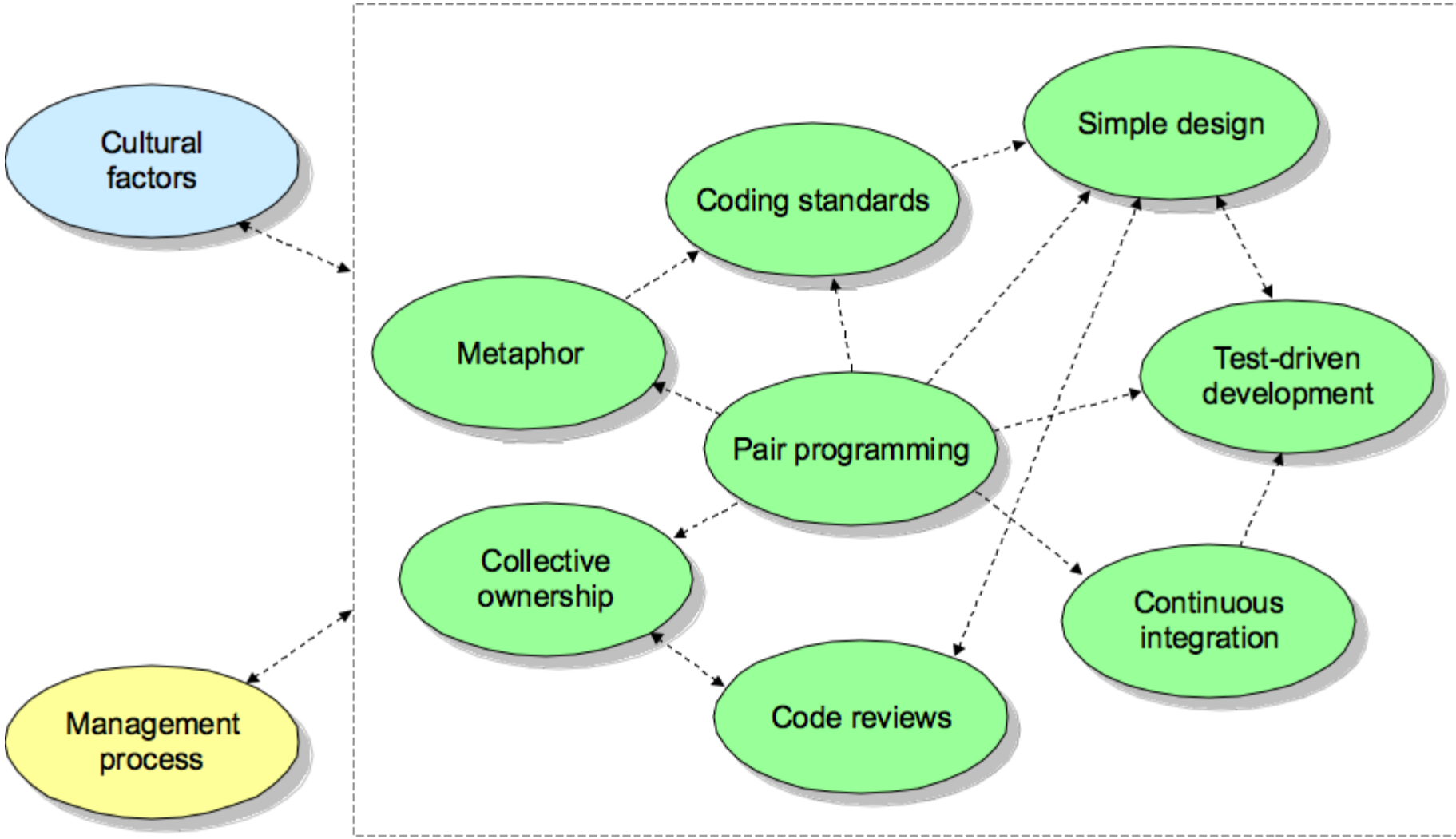
# *Scope*

- Development project
- Product lifetime
- Staff / organization

# Dependencies and Influences



# Dependencies and Influences



# *Weight*

- Not all attributes have the same impact on cost
- We use adjustment factors to show the relative impact

# *Sample Adjustment Factors for Weights*

| Agile practice | Impact on dev time | Impact on defects | Impact on support |
|---|---|---|---|
| Lightweight process | 0.75 | 1.00 | 1.00 |
| Dedicated team | 0.85 | 0.85 | 1.00 |
| Pair programming | 1.25 | 0.85 | 1.00 |
| Coding standards | 0.85 | 0.90 | 0.90 |
| Test-driven dev | 1.25 | 0.75 | 0.75 |
| Code reviews | 1.10 | 0.90 | 0.90 |

# *Time = Money*

=


ZHONGGUO RENMIN YINHANG
10
SHI YUAN
Not legal
BANCO CENTRAL DE COSTA RICA
CINCO COLONES
50

## *Unit of measure for IT work: Cost per hour*

Rule-of-thumb cost per hour =

(Mean annual salary of IT-related jobs

+ 40% for benefits and facilities costs)

/ approx number of work hours per year

- *or* -

Organization's official internal bill rate

# *Measuring cost/benefit directly*

- Test-driven development
- Pair programming

# *Deriving cost/benefit indirectly*

- Dedicated team
- Frequent feedback

# *Inferring cost/benefit logically*

- Transparency
- Collaboration

# *Value*

Value = financial value only

Value =
(revenue gain *or* cost saving) -
(project cost + support cost)

Agile/lean adds value by reducing project and support costs, including reducing time-to-market

# Quick assessment: Using adjustment factors

## Spreadsheet exercise

# Long assessment: Project comparison

## Project walkthrough

# *Mapping value to the business drivers*

| | Time to market | Req'ments alignment | Product quality | Cost of ownership |
|---|---|---|---|---|
| People over process | ✓ | ✓ | ✓ | |
| Transparency | ✓ | ✓ | ✓ | ✓ |
| Collaboration | ✓ | ✓ | ✓ | |
| Customer involvement | ✓ | ✓ | | |
| Collocation | ✓ | ✓ | ✓ | |
| Change is normal | ✓ | ✓ | ✓ | ✓ |
| Continuous improvement | | | ✓ | ✓ |
| Lightweight process | ✓ | | | |
| Iterative / incremental | ✓ | ✓ | ✓ | ✓ |
| Self-organizing team | ✓ | | ✓ | |
| Dedicated team | ✓ | | ✓ | |
| Sustainable pace | | | ✓ | ✓ |

# *Mapping value to the business drivers*

| | Time to market | Req'ments alignment | Product quality | Cost of ownership |
|---|---|---|---|---|
| Theory Y management | ✓ | | ✓ | |
| Effective metrics | ✓ | ✓ | ✓ | |
| Continuous integration | ✓ | ✓ | ✓ | ✓ |
| Test-driven development | ✓ | ✓ | ✓ | ✓ |
| Simple design | ✓ | ✓ | ✓ | ✓ |
| Coding standards | ✓ | ✓ | ✓ | ✓ |
| Metaphor | | ✓ | ✓ | ✓ |
| Code reviews | | ✓ | ✓ | ✓ |
| Collective ownership | ✓ | ✓ | ✓ | |
| Pair programming | ✓ | ✓ | ✓ | |

# *Constituencies and their interests*

- A *constituency* comprises people in an organization who share roles, professional success criteria, business concerns, and personal fears.
- Each constituency cares about different business drivers.
- Each constituency has different fears about organizational change.
- Some constituencies are natural allies of agile/lean, others are natural adversaries.
- The value proposition presented to each constituency must be tailored to its interests and fears.

# *Constituencies and hard value*

| | Time to market | Alignment with needs | Quality | Cost of ownership | Tendency | Fears | Use of value assessment | Value proposition |
|---|---|---|---|---|---|---|---|---|
| Business managers | ✓ | ✓ | | ✓ |  | LC | INF | BUS |
| Business users | | ✓ | ✓ | |  | PER | SUP | SUP |
| Business analysts | | ✓ | | |  | PER | DEF | ROL |
| Quality assurance testers | | | ✓ | |  | LC | SUP | SUP |
| Production support | | | ✓ | ✓ |  | LC | SUP | SUP |
| Software architects | | | ✓ | | ? | PER | ? | ? |
| Software developers | | | ✓ | | ? | PER | ? | ? |
| IT project managers | | ✓ | ✓ | |  | PER | DEF | ROL |
| IT middle/senior management | | | | ✓ | ? | POL | ? | ? |

# *Questions / discussion*