

**PICMET 2012**

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**Can we Save the Economy  
with  
Management of Technology?**

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# **The Role of MOT**

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**Question:**

**What can MOT do  
for the Economy?**

**The Unexploited Potential of  
MOT as a Discipline**

# Economic Cycles

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- **Dealing with downturns:**
  - » **Macro economic solutions - Government**
  - » **Micro economic steps – Companies**
  
- **We Look at the Micro Level**
  - » **People**
  - » **Processes**

# Two Ways for Better Business Results

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**Reduce Costs**

**Increase Sales**

**Improve Efficiency**

**Create and Improve  
Products and Services**

**Get Rid of People**

**Create New Value**

# What Creates Value

## People and Processes

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### Knowledge Workers

**Analyzers**

**Creators**

**Supporters**

**Protectors**

### Processes

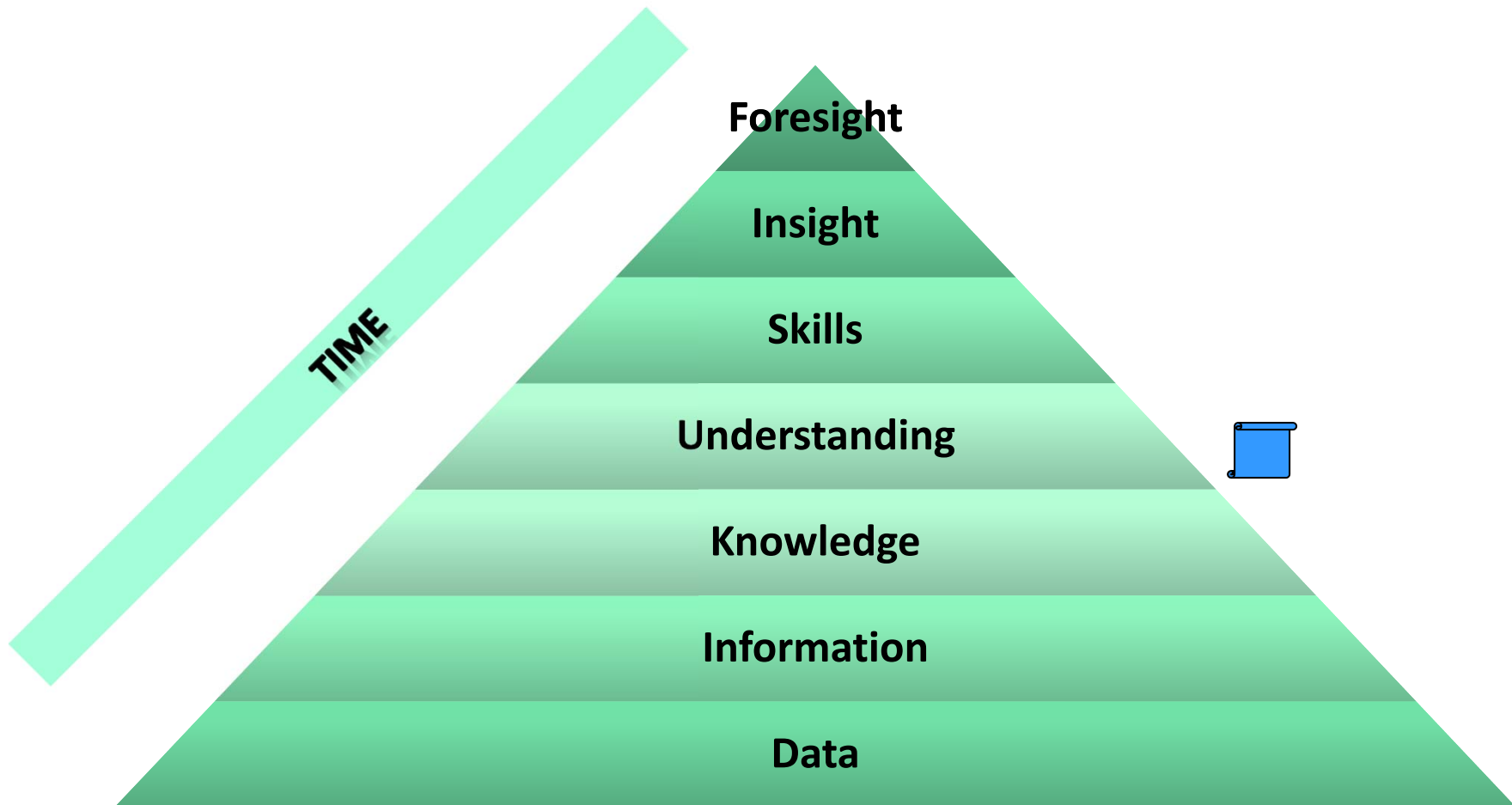
**Innovation**

**Projects**

# The Hierarchy of People's Knowledge (Capability)

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# What Creates Value

## People and Processes

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### Knowledge Workers

### Processes

**Analyzers**

**Innovation**

**Creators (Engineers)**

**Projects**

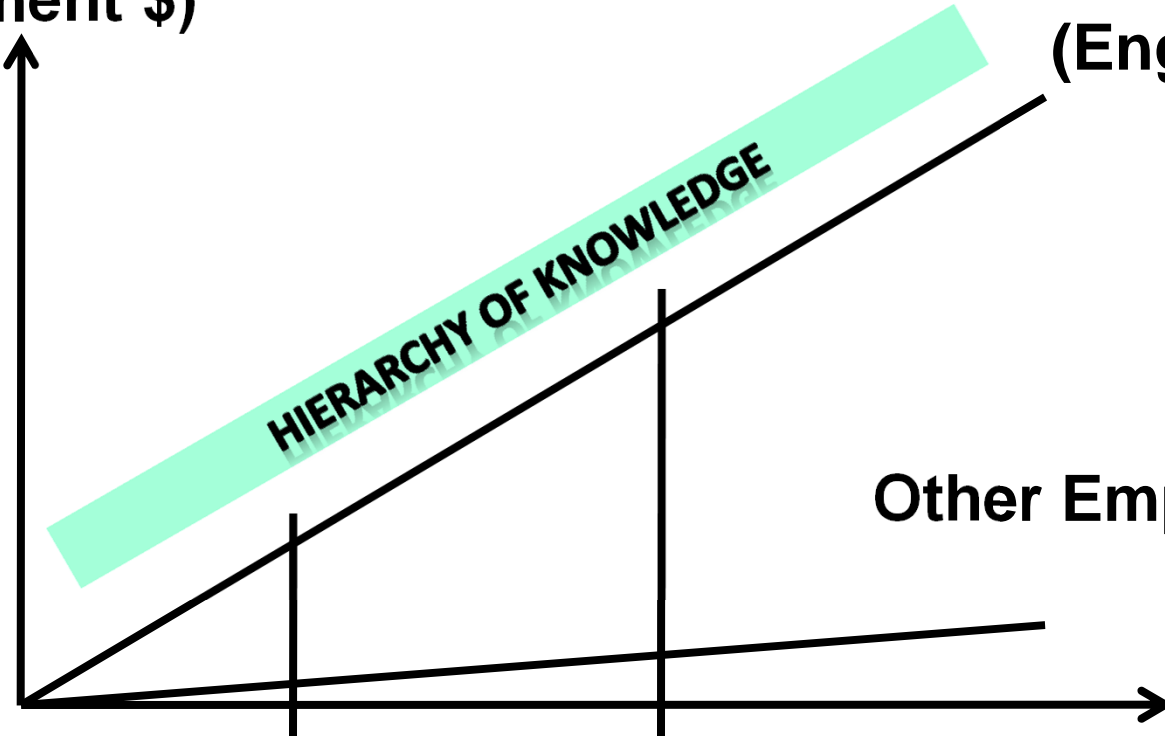
**Supporters**

**Protectors**

# Cumulative Importance of Value Creating Employees

Value to Company  
(Replacement \$)

Value Creators  
(Engineers)



Other Employees

Time in Company



# The Weakness of Engineers in the Company

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- Like to focus on technical things
- Less communicative, less political
- Victims of downsizing just like anyone else
- Can find new jobs quicker
- No one really protects them
- Power of CFO versus CTO

# What Creates Value

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## People

**Analyzers**

**Creators**

**Supporters**

**Protectors**

## Processes

**Innovation**

**Projects**

**MOT**

# Management of Technology

## Common Formal Definitions

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**Management of Technology - links engineering, science, and management disciplines to address the planning, development, and implementation of technological capabilities to shape and accomplish the strategic and operational objectives of an organization.” (NSF, 1987)**

**“A specialized professional practice that captures technology-based innovation opportunities. It guides technological progress, assesses the potential of individual technologies and uses this potential to the benefit of business, society and the environment.” (IAMOT, 2009)**

# What is Technology and MOT?

## Revised Definitions

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- **Technology is *not* a product (such as a computer); it is the *capability* to create products and services. It involves knowledge, skills, structured processes, and tools**
- **Management of Technology is the management of organizations that create *value* with technology (technology-based organizations)**
- **While all organizations use technology (or more precisely, the products of technology), not every organization is managing technology**

# The Weakness of Value Creation Processes

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- **Most projects and/or innovations don't make it**
- **No good established processes in most companies**
- **Companies don't use latest MOT knowledge**
- **Technical managers are not prepared for leadership**
- **CEOs don't appreciate the importance of value creation processes, assume if the strategy is right, their teams will get it done**

# The Value Creation Society

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- 1. Distinguish between Value Creation (VCN) activities and others. Make VCN most important. Protect & reward value creators**
- 2. Build your systems to maximize VCN (business results)**
- 3. Educate your engineers (value creators) to focus on value, rather than requirements and technical specs**
- 4. Train technical managers to become business leaders**
- 5. Invest heavily in VCN processes. Establish a culture of continuous flow of ideas and VCN projects. Don't save on VCN**
- 6. Continue to reduce cost of non-VCN processes and improve efficiency**

# The Role of MOT

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- **Definition: “MOT is the management of organizations that create economic and other value through technology”**
- **Build and develop strategic MOT formal processes focused on VCN, including appropriate metrics**
- **Teach people the link between technology and business**
- **Get MOT in front of executives, and into business schools**