Information, Organization, and Management

Unit 4: Information Asymmetry and Opportunism

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Overview

• Information Asymmetry and Exchange
• Opportunism
• Principal Agent Theory
• Principal Agent Problems in E-Business
• Organizations and Institutions
Information Asymmetry and Exchange

- Actors have different resources and skills
- Ability to process information is limited
- Also, search and evaluation of information consumes resources

=> Asymmetric distribution of information

- Example: Capabilities and intentions of potential partners
Opportunism

• Strategic behavior of increasing one’s own utility eventually at the expenses of others and under disobedience of social norms.
Principal Agent Theory

• Division of labor -> asymmetric distribution of information -> space for opportunistic behavior

• Examples of Principal/Agent relations
Principal Agent Theory: Problems

- Hidden characteristics
- Hidden Action
- Hidden Information
- Hidden Intention
Hidden characteristics

• Principal has incomplete or incorrect knowledge of relevant characteristics of the agent

=> Adverse selection
Principal Agent Theory: Hidden Action

- Principal has incomplete knowledge of the agent's actions
Principal Agent Theory: Hidden Information

- Principal is unable to judge the agent‘s action appropriately or to assess whether the results was due to the agent‘s action or solely incidental
Principal Agent Theory: Hidden Intention

• Principal has incomplete knowledge of the agent’s true intentions

• Examples
  – Duration of employment
  – Access to knowledge or skills
  – Hold-up problems
Principal Agent Theory: Adverse Selection

• The selection of contract partners is flawed: Inferior choices are made due to information asymmetries

• Examples:
  – More risks among insured individuals than in the population
  – CDW: Collision Damage Waiver coverage
Principal Agent Theory: Moral Hazard

- Principal is unable to retaliate for breach of agreement after contract signature
- Exploitation of principal’s incomplete knowledge by the agent
Principal Agent Theory: Solutions

• Signaling
• Screening
• Self-Selection
Signaling

• Agent takes extra effort to remove information asymmetries

• Examples:
  – Diploma
  – Certificate for used cars
Screening

• Principal takes extra effort to reduce information asymmetries

• Examples
  – Assessment center
  – Background checks
Self-Selection

• Principal offers multiple variants of a contract
• Agent reveals own assessment of characteristics and intentions by choosing the most favorable one.
• Examples:
  – Co-insurance / Deductibles
Principal-Agent Problems: Links to Previous Topics

Asset Specificity

Market and Hierarchy: A Continuum in between

Hierarchy

Only Individuals Acting on Markets

cf. Wigand/Picot/Reichwald (1997)
**Coase: The Nature of the Firm**

- **Explanation**: Using the price mechanism (market) consumes resources

![Diagram showing the nature of the firm with roles: Entrepreneur, Staff, search, select, negotiate, set-up contract, exchange, supervise, enforce.](image)
Asset Specificity
Market and Hierarchy: A Continuum in between

Hierarchies

Only Individuals Acting on Markets

cf. Wigand/Picot/Reichwald (1997)
Impact on Coordination?

cf. Wigand/Picot/Reichwald (1997)
Arbitrage

- Exploiting differences in prices for goods on different markets
- Based on „informational lead“
- Important role
  - by exploiting the opportunity, arbitrator destroys the opportunity
  - makes markets more efficient and integrates fragmented markets
- Bridging discrepancies in time, location, and quantity
Game Theory: Prisoner's Dilemma

Thief 1

Confesses

Confesses

8

8

10

1

2

Do not confess

Thief 2

Confesses

8

8

10

1

2

Does not confess

Lack of Institutional Arrangement -> suboptimal choices
Organization Theory

• Institutions: „Socially sanctionable expectations, related to actions and behavior of one or more individuals“
• Stabilize expectations and facilitate the coordination of production
• Self-maintaining vs. such requiring supervision
Contract Theory

• Classical contract:
  – commodities
  – short-term
  – change of partners easy, no dependencies

• neo-classical
  – as above, but spans some time
  – spec already an approximation
  – explicit mediation rules

• relational
  – contract is only an approximation
Information as Signal and Symbol

• Information behavior has signaling effects
• Information used mainly to refute expected criticism
• In particular, if consequences are to be carried by the decision-maker but not information costs
• Typical example: Business consulting

cf. Wigand/Picot/Reichwald (1997)
Context Variables (O‘Reilly)

- The likelihood that information is considered increases with
  - more power of the informing party
  - relevance for task completion (subjective/objective)
  - strong relationship with control and evaluation systems (e.g. peer-reviewed journal)
  - contribution to positively sanctioned actions
  - compliance with decision-maker‘s goals
  - little conflict with cooperation partners
  - degree of accessibility (online, good writing,...)
  - conciseness
  - degree of personal contact
  - degree of trust in the source

cf. Wigand/Picot/Reichwald (1997)
Problems in Interorganizational Information Transfer

- Prisoner’s dilemma
- Basic value of information
- Additional value of information
- Multiple periods allow for cooperation
- Tit-for-Tat strategy

cf. Wigand/Picot/Reichwald (1997)
Hayek: „The Use of Knowledge in Society“ (1945)

- Price as a mechanism to convey information
- Empowers actors to make good decisions with relatively little information
- Example: Rise in price for oil

cf. Wigand/Picot/Reichwald (1997)
Review Question 1

• Explain the basic assumption of the principal/agent theory. Name four typical failures and give an example of a principal/agent problem.
Thank you!

The slides of today‘s class will be available at [http://www.heppnetz.de/teaching/img/](http://www.heppnetz.de/teaching/img/) shortly.