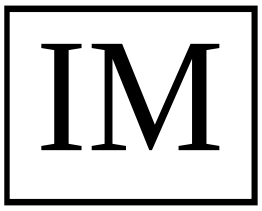


Information Management and Knowledge Management (IMKM)

Lecture 12

Basics and Tools of Knowledge Management

TUM

Chair for Information Systems

Lecture Schedule

Information Systems Strategy

Business Value of IT

- Business IT Alignment
- Guest Lecture: Digital Leadership and the CIO Role
- IT-enabled Strategies
  - Digital Platforms

Information Management

- IT Controlling and IT Governance
- IT Sourcing and IT Offshoring
- IT Security, Privacy and Risk Management
- Guest Lecture: Natural Language Processing for IM

Knowledge Management

- **Basics**
- **Tools**
- Guest Lecture: Applications

IMKM Lecture 12: Basics and Tools of Knowledge Management

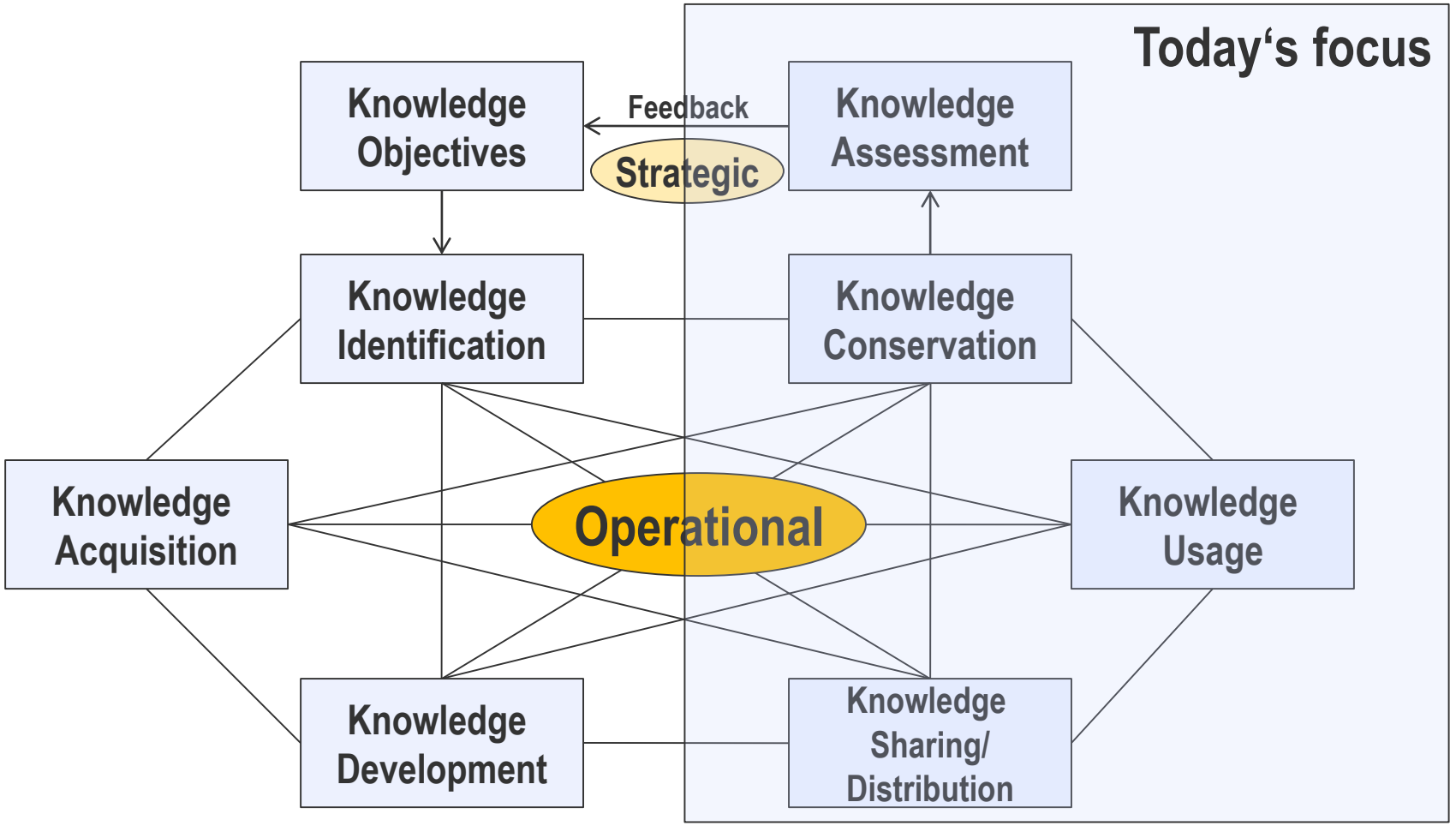
Outline

1. Core Processes of Knowledge Management
    1. Knowledge Sharing/ Distribution
        1. Organizational Metaknowledge
    2. Knowledge Usage
    3. Knowledge Conservation
    4. Knowledge Assessment

Learning Objectives

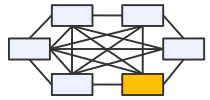
- You know the core process of knowledge management and can give examples for each step.
- You understand the concept of organizational metaknowledge and how it supports knowledge management.

Core Processes of Knowledge Management



Adapted from Probst et al. (2010)

Knowledge Sharing and Distribution



"How do I get knowledge to the right places?"

- **Task:** Make knowledge *accessible* for the people who need it
- **Challenge:** Transfer knowledge from *individuals to groups*
- **Problems:** Existing knowledge is *not codified* and accessible by others

Probst et al. (2010)

Barriers of Effective Knowledge Transfer

Percentage of respondents who are hampered by this knowledge transfer barriers:

Short in **time**	62
Low information about knowledge **demand of others**	38
Missing **awareness** of the importance of knowledge transfer	36
Attitude: "**Knowledge is power**" and "Shared knowledge weakens own position"	36
Missing **transparency** about knowledge bearers and knowledge sources	35
High **specialization** of employees	33
Little organized **possibilities** for knowledge transfer	32
Corporate **culture**	31
Missing or inadequate **incentive** systems	27
Hierarchical **structures**	25
Inadequate information **infrastructure**	20
Financial structure	9

Missing time is seen as number one enemy of effective knowledge transfer

Knowledge Sharing and Distribution

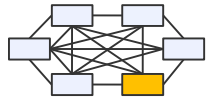
Approaches to Knowledge Sharing and Distribution

Room for Exchange

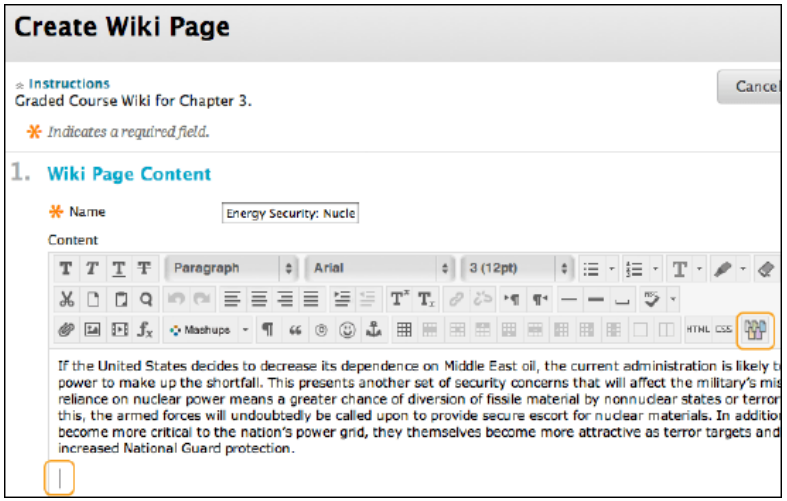
WIKIs and Enterprise Social Networks

(Reverse-) Mentoring

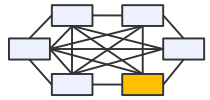
Example: Wikis



- Enable anyone to contribute
- Edit any page
- Low contribution threshold
- Uses a simplified mark-up language
- Can be used collaboratively



Example: Enterprise Social Networks



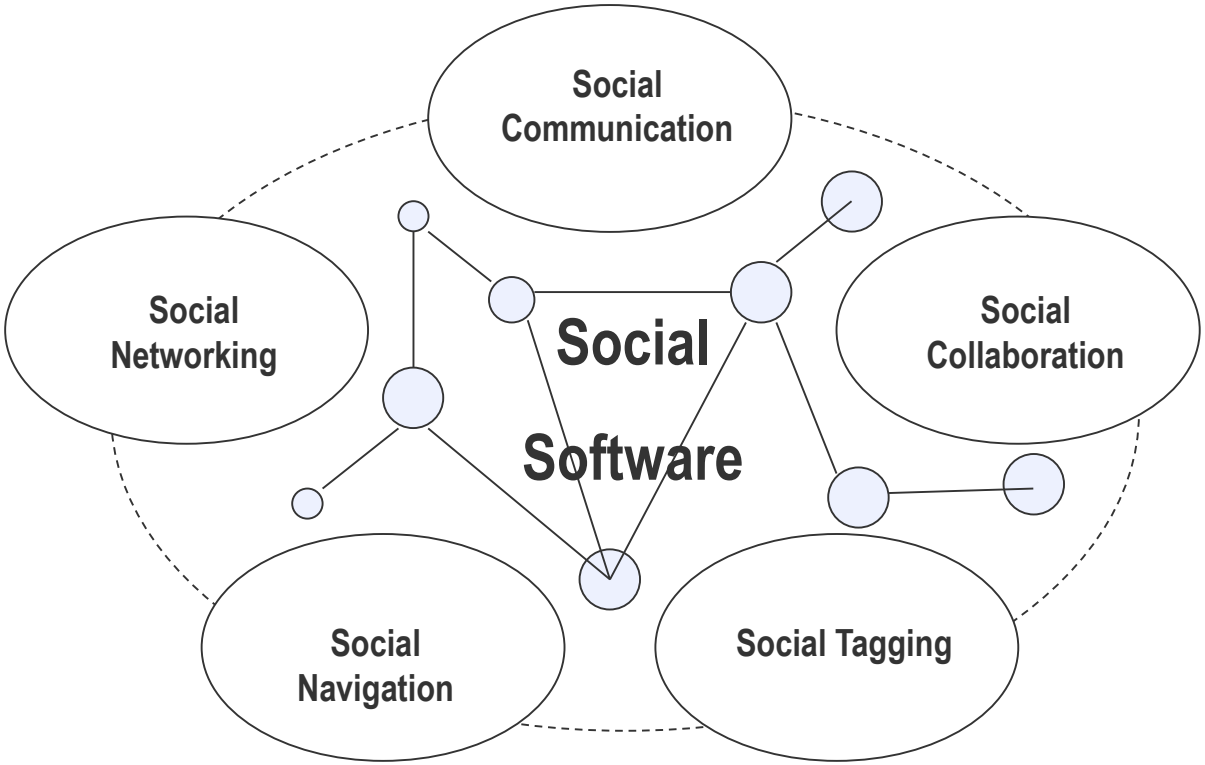
Common obstacles for knowledge sharing:

- Digital objects are difficult to **find**.
- When found, objects are difficult to **assess**.
- Systems are not strong at **identifying people who can help** find or assess objects.

"Social software" may help overcoming some difficulties.

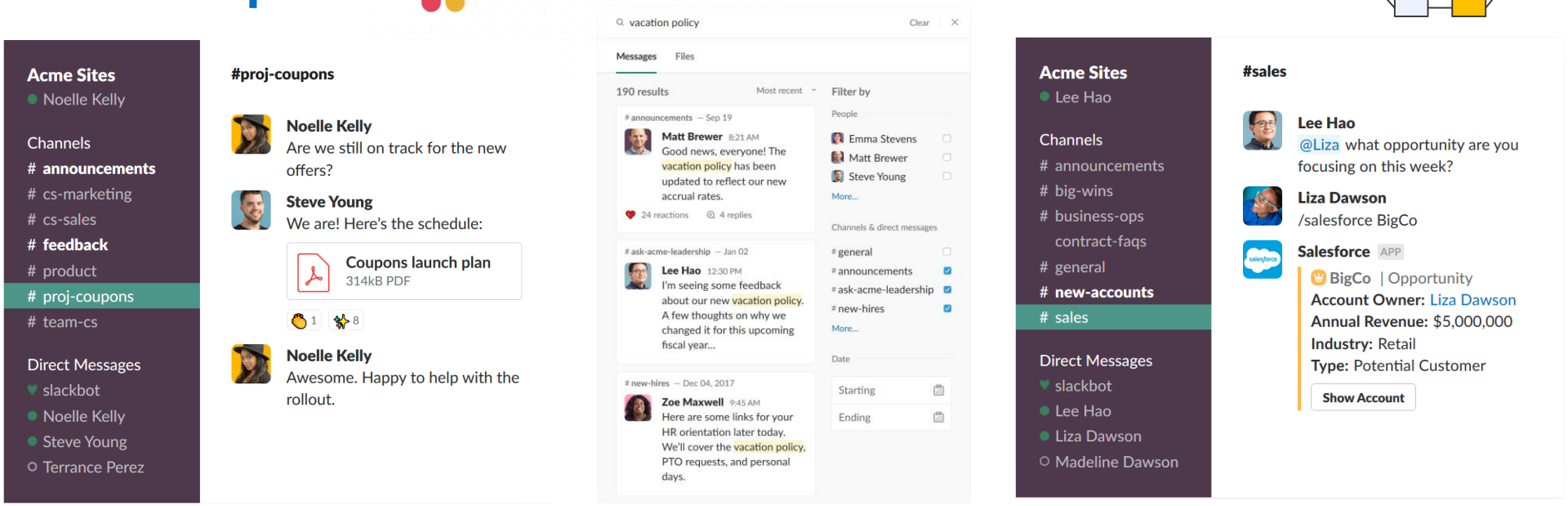
Grudin (2006)

Example: Enterprise Social Networks



Müller (2007)

Example: slack



Conversations in **channels**

- Public
- Private
- Direct messages

Conversations as **searchable** knowledge base

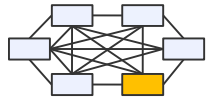
- Share channels with other firms
- Voice and video calls with screen sharing
- Integrated file sharing

Integration in other tools

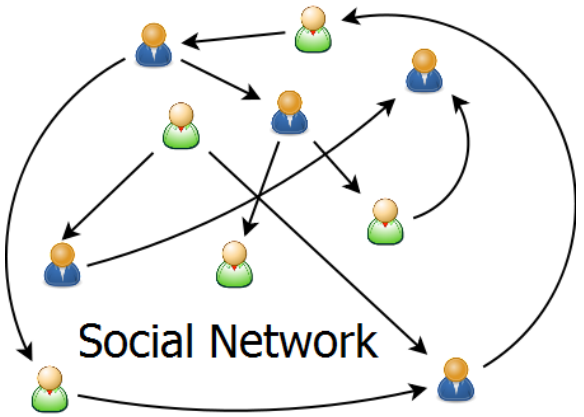
- Salesforce
- Zendesk
- Jira

Slack (2019)

Supporting Concept: Organizational Metaknowledge



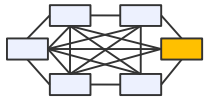
*"Organizational metaknowledge refers to knowledge about **who knows what** and **who knows whom** within the organization."*



- Enterprise social networks can make invisible communication **visible**.
- Visible communication improves metaknowledge with two mechanisms
  - **message transparency**: Seeing coworkers' messages helps to infer about others' knowledge.
  - **network translucence**: Seeing the structure of coworkers' communication networks helps to infer about who coworkers talk with somewhat regularly.

Leonardi (2014)

Knowledge Usage

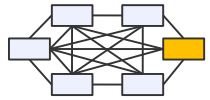


"How do I make sure knowledge is actually used?"

- **Task:** Ensure the *productive use* of organizational knowledge
- **Challenge:** Knowledge identification and distribution is not enough
- **Problems:** Various *barriers* inhibit the use of external knowledge

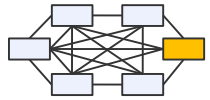
Probst et al. (2010)

Example: Knowledge Communities



- Informal group of people with a **shared interest** in and affinity to a specific subject.
- Communities support, for example, platform functionalities in an app store
  - administration of **membership** and related work-flows
  - provision of **tools** for communication and cooperation among the members (e.g. bulletin boards, chats, repositories, etc.)
  - analysis of **member data** and profiles of members in order to give recommendations for contacts or likes to knowledge units

Example: Lessons Learned



Systematic **documentation** and processing of **experiences** in an organization to systematically learn from those previous experiences.

Example

Xerox: Shared database with tips of and for technicians to fix printers

Pro

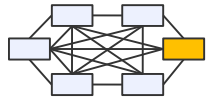
- Preserves knowledge for the organization
- Avoids extra or duplicate work
- Reduces training time of new employees

Contra

- Additional effort for documentation
- Requires willingness of employees to share **and** use knowledge
- Management must plan in time and promote an open failure culture

Lehner (2009), p. 189

Example: Best Practice Sharing



Document the **best possible solution** (in terms of efficiency or effectiveness when compared to others) to a given **problem** with the aim of replacing existing processes by best practices.

Example

Texas Instruments: **Best Practice Sharing Facilitators** to find, document and communicate best practices and promote sharing tools.

Pro

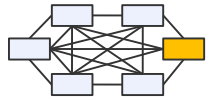
- Increase efficiency and/or effectiveness
- Solutions are proven in practice

Contra

- Often lack generalizability (too contextual or specific to an organization)
- Too strong focus may be limiting, ignoring other types of knowledge (e.g. customers)

Lehner (2009), p. 190; Davenport & Prusak (1998), p. 169

Example: Story Telling/ Learning History



Method to create and distribute stories (learning histories) about an organization.

Common stories

"How will the organization deal with obstacles", "How will the boss react to mistakes?", "Is the big boss human?", "The rule-breaking story"…[1]

Pro

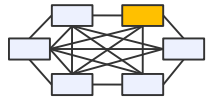
- Sets knowledge into a context and is thus well-suited for complex issues.
- Human beings **learn** particularly well from stories
- More flexible than Lessons Learned or Best Practices

Contra

- Highly time-consuming / high personnel effort to create stories
- No short-term benefits

Lehner (2009), p. 190; 1: Martin et al. (1983)

Knowledge Conservation

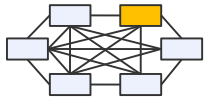


"How do I guard myself against knowledge losses?"

- **Task:** Select important knowledge, ensure adequate ***storage*** and perform regular ***updates***
- **Challenge:** Ensure existing knowledge is ***useable*** in the future
- **Problems:** Knowledge can be lost through re-organization, movement of labor

Probst et al. (2010)

Examples for Knowledge Conservation



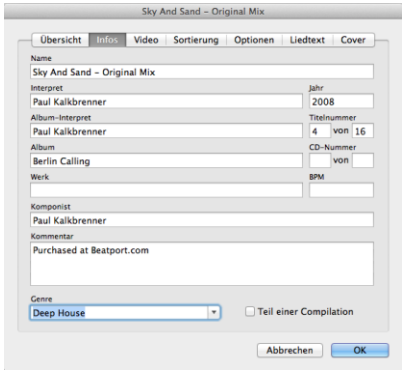
Knowledge repositories

are depositories for **explicit** knowledge in which knowledge units (KU) are registered, administrated and are made accessible for potential users.

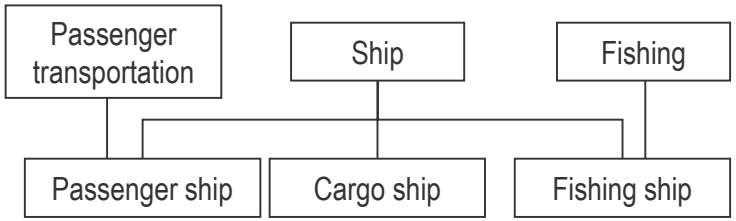
Core functionalities are:

- **storage** of KU‘s
- supplementation of KU‘s through **meta data**
- **classification** and **indexing** of KU‘s in order to offer a search possibility within a KU
- documentation of **connections** between KU‘s, people and other units (e.g. key words)
- documentation of **change** histories of KU‘s
- support of **editorial processes** for KU‘s
- **search** functionality supporting the identification of KU‘s

Metadata

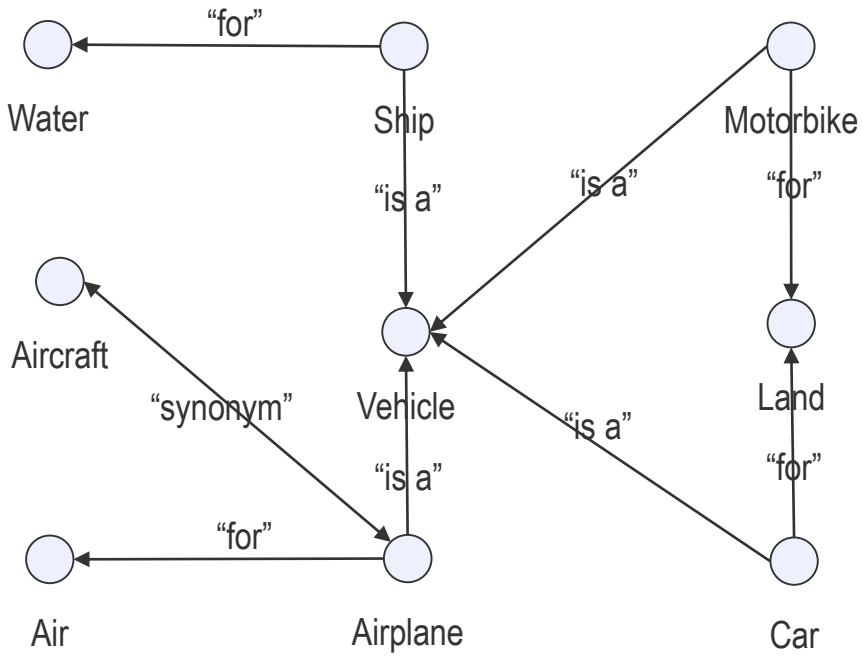


Taxonomy: poly-hierarchical classification



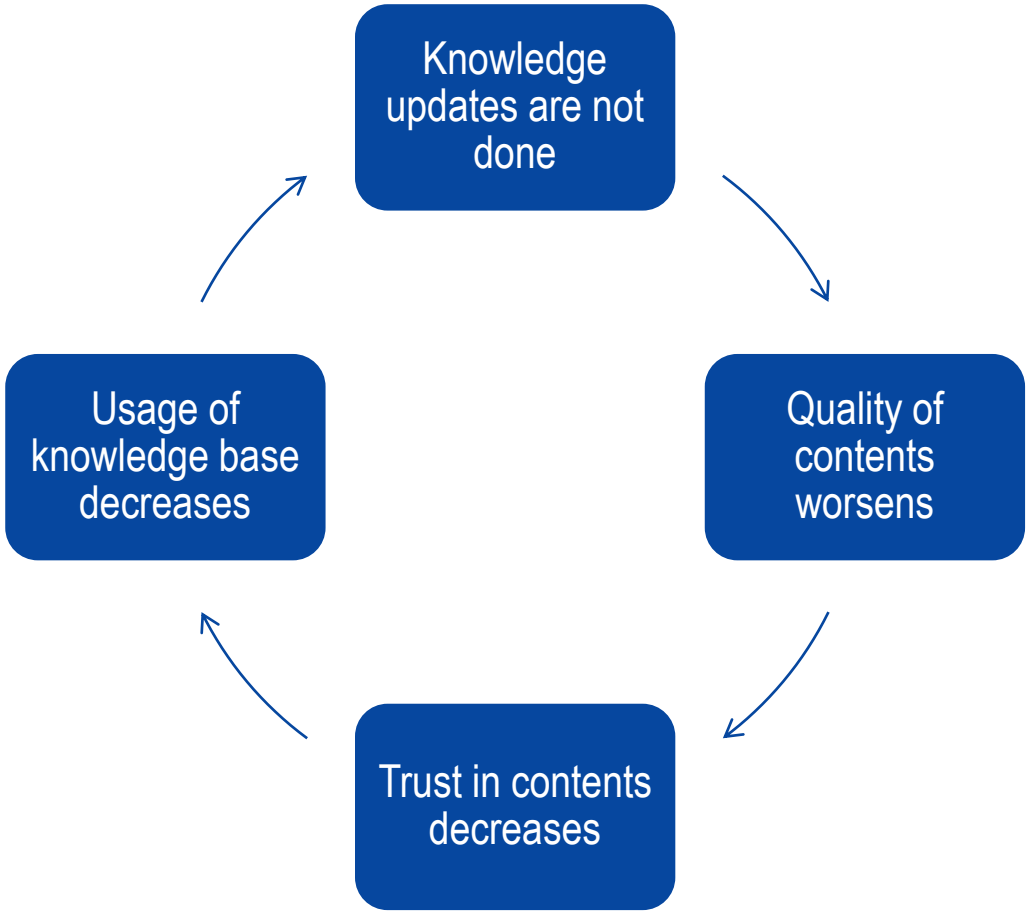
Example for Knowledge Conservation: Ontology

Concepts (Vehicle, Water, Air) are set into relation (hierarchic, synonym, spatial) to each other



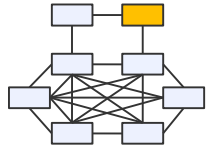
Adapted from Lehner (2009), p. 198

Negative Reinforcement Cycle of Knowledge Losses



Adapted from Probst et al. (2010)

Knowledge Assessment



"Do the investments in knowledge management pay off?"

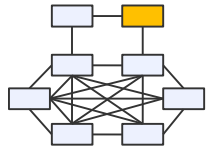
- Measure efforts in knowledge management
- Reveal **success and failure** of knowledge management

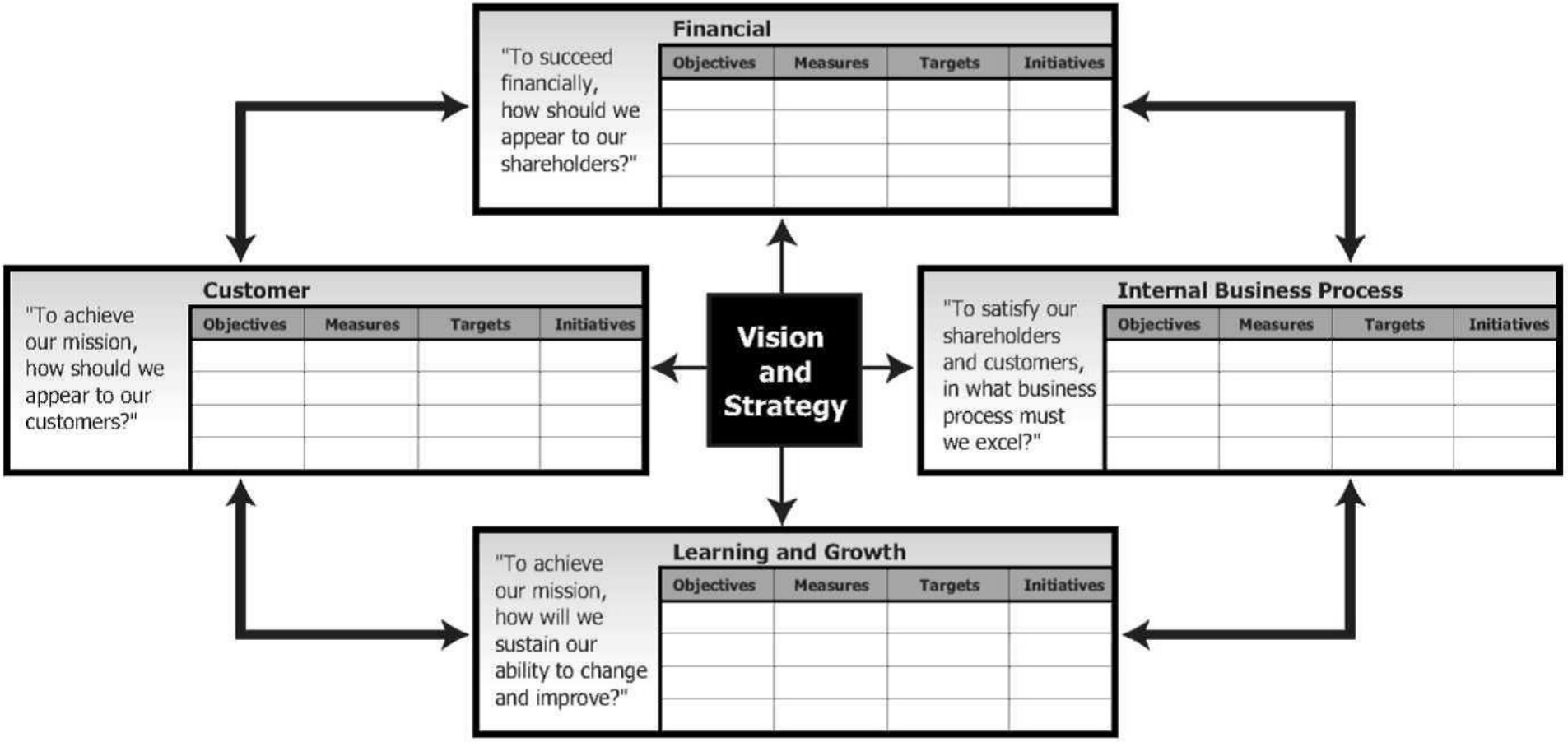
- Without measures like this, knowledge management is not efficient and the management cycle remains incomplete.

- For measuring knowledge, it is crucial to select suitable **indicators**.
- Example: Balanced Scorecard

Probst et al. (2010)

Knowledge Assessment: Selection of indicators with Balanced Scorecard





Kaplan & Norton (1992)

Example for Knowledge Assessment: Benchmarking

Systematic comparison of products, services or processes to identify strengths and weaknesses.

Forms

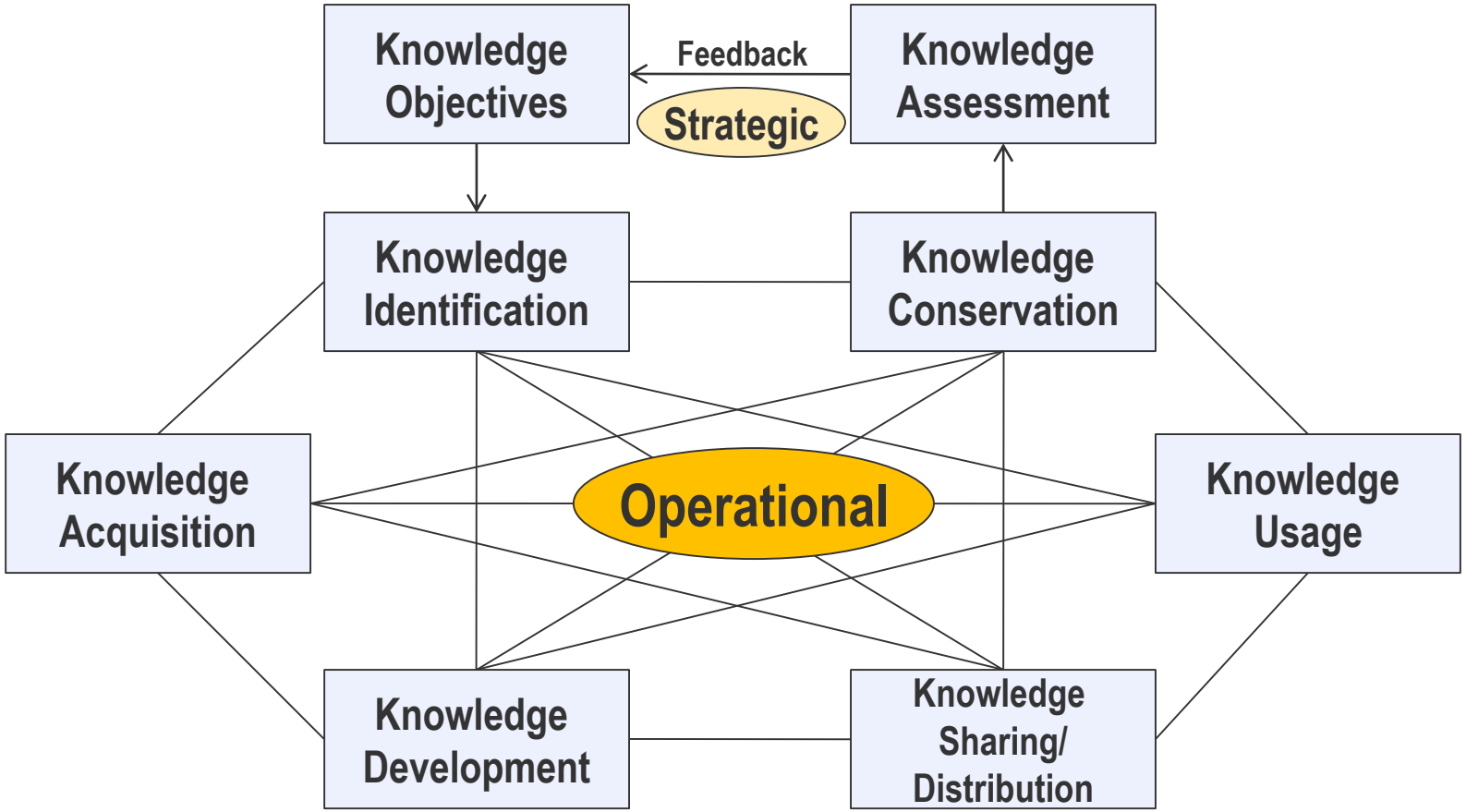
- Internal (departments, business units)
- Competitive (other companies)
- Functional (non-identical processes)
- Generic (statistical comparison with other companies)

Examples

- KM Performance Framework (de Gooijer, 2000): BSC + behavioural sci.
- Process-oriented Performance Measurement (PPM)

Lehner (2009), pp. 232

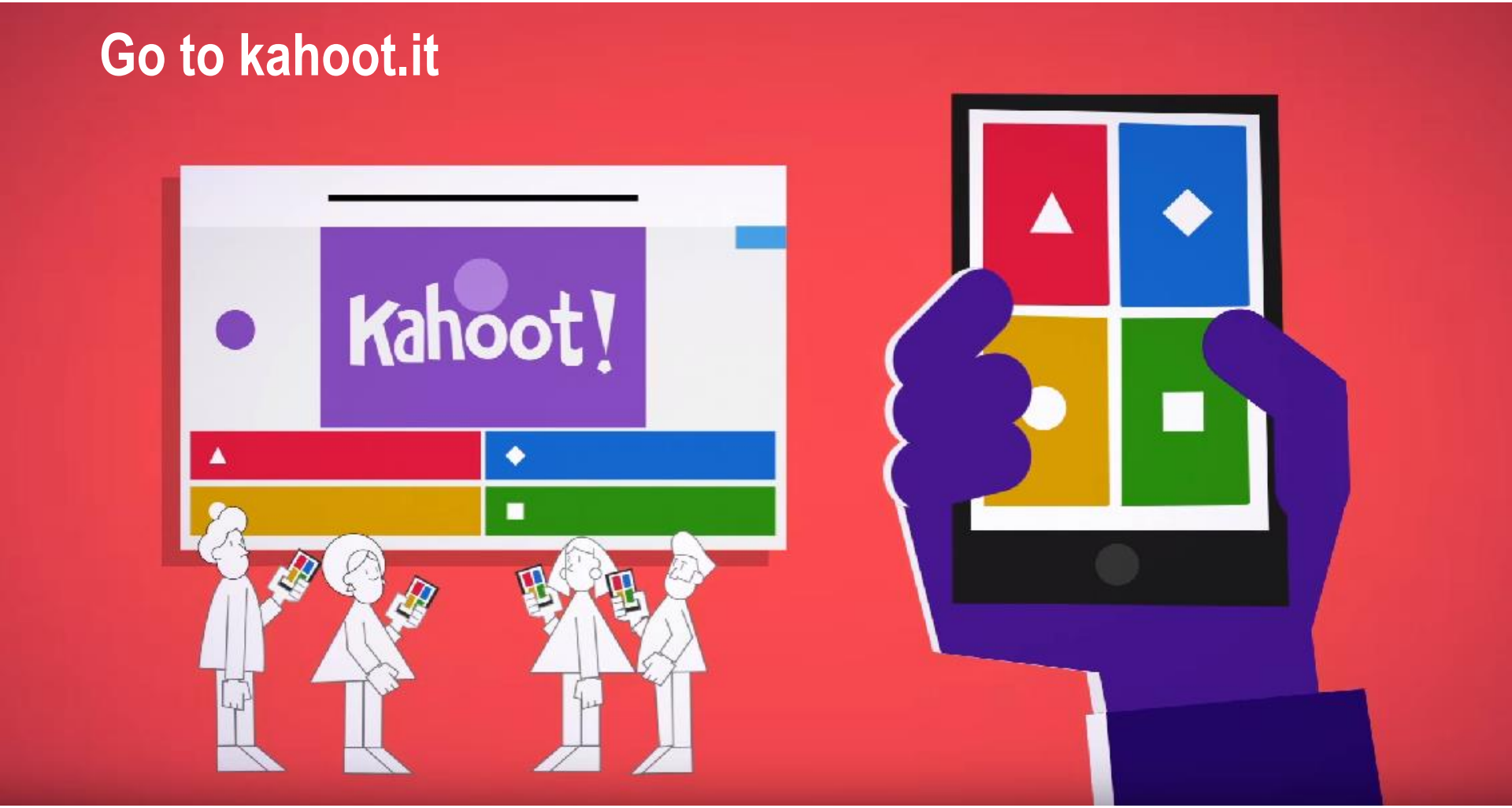
Core Processes of Knowledge Management



Adapted from Probst et al. (2010)

Quiz Time!

Go to kahoot.it



Literature

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- **Probst/Raub/Romhardt (2010):** Wissen managen: Wie Unternehmen ihr wertvollste Ressource optimal nutzen (6. Aufl.). Gabler, Wiesbaden.

Additional Reading

- **M. Bellmann, H. Krcmar, T. Sommerlatte (2002):** Praxishandbuch Wissensmanagement. Strategien - Methoden – Fallbeispiele. Symposion, Düsseldorf

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