

# Knowledge Management for Innovation

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# Why Does It Matter?



Innovation relies heavily on the effective management of knowledge assets. Knowledge about market trends, customer needs, technological advancements, and internal processes fuels the innovation process.



Knowledge management practices such as knowledge sharing platforms, communities of practice, and lessons learned repositories facilitate idea generation, collaboration, and learning within organizations, thus fostering a culture of innovation.



Conversely, innovation can also contribute to knowledge creation and accumulation. Through experimentation, research, and development efforts, organizations generate new insights and expertise that can be captured and incorporated into the knowledge management framework.

# Knowledge Management

- Knowledge management is an organizational process that aims to create centralize knowledge source within the organization that acquire, assimilate, distribute, integrate, share, retrieve and reuse the internal and external, explicit and tacit to bring innovation in the organization in the form of the product, people and organizational process.
- Polanyi (1962) identified the duality of the knowledge.
  - Tacit knowledge
  - Explicit knowledge

# Tacit Knowledge

- Polanyi (1962) defined tacit knowledge as **the abilities, expertise and conceptual thinking**. Tacit knowledge is not only attributed to the, what is know, but it is also attributed to the knower as well. Because sometimes knower's knowledge level is soaring but he could not explain in efficient way or sometimes knower does not have adequate sources to disseminate his knowledge to the person who actually needs this.
- Tacit knowledge is **very difficult to acquire** because it is embedded in the form of capabilities, skills and ideas which individuals carry in their minds.
- Tacit knowledge can only be seen through the application that is why tacit knowledge is **difficult to capture, exploit and diffuse** among the organizational members.





# Explicit Knowledge

- Polanyi (1962) said that explicit knowledge can be disseminated and shared in the form of hard data, well defined procedures, and standardized principles.
- Nonaka & Takeuchi (1995) defined explicit knowledge as “Knowledge of Rationality”. Explicit knowledge is easy to capture, manage, share and disseminate to the people.



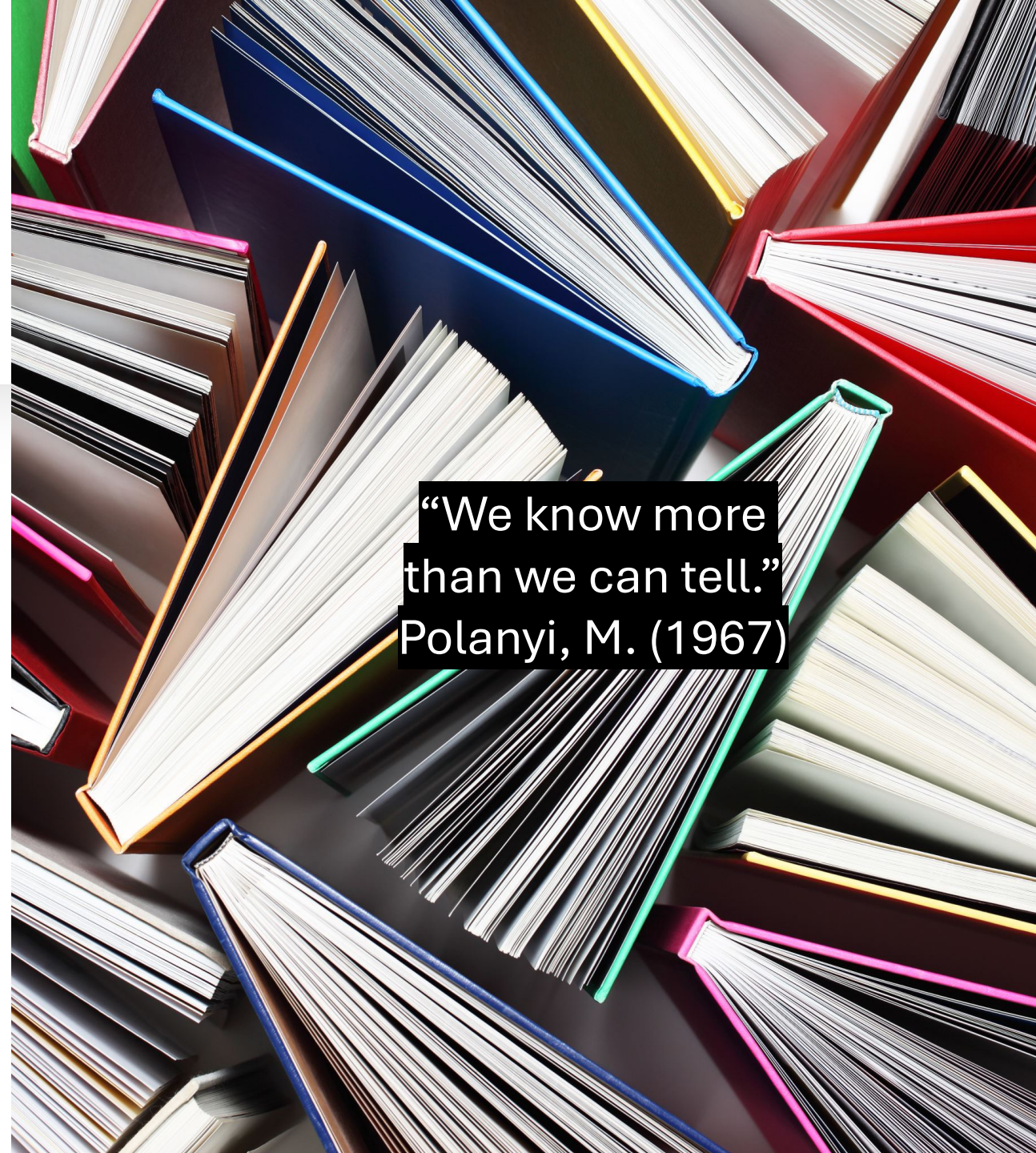
# Forms of Knowledge

## Explicit

- Codified in blueprints, designs, drawings and specifications
- Knowledge of rationality (mind)
- Sequential knowledge (there and then)
- Digital knowledge (theory)

## Tacit

- Uncodified, kept in human brains
- Knowledge of experience (body)
- Simultaneous knowledge (here and now)
- Analogy knowledge (practice)



“We know more  
than we can tell.”  
Polanyi, M. (1967)



# MUSTIKARASA

RESEP MASAKAN INDONESIA

*Warisan Sukarno*



**MUSTIKARASA**  
RESEP MASAKAN INDONESIA  
*Warisan Sukarno*



Pengantar JJ Rini

## A COMPARISON OF KEY KM CYCLE PROCESSES

Nickols (1999)	Wiig (1993)	McElroy (1999)	Rollet (2003)	Bukowitz & Williams (2003)	Zack (1996)
Acquisition	Creation	Individual and group learning	Planning	Get	Acquisition
Organization	Sourcing	Knowledge claim validation	Creating	Use	Refinement
Specialization	Compilation	Information acquisition	Integrating	Learn	Store/retrieve
Store/access	Transformation	Knowledge validation	Organizing	Contribute	Distribution
Retrieve	Dissemination	Knowledge integration	Transferring	Assess	Presentation
Distribution	Application		Maintaining	Build/sustain	
Conservation	Value realization		Assessing	Divest	
Disposal					

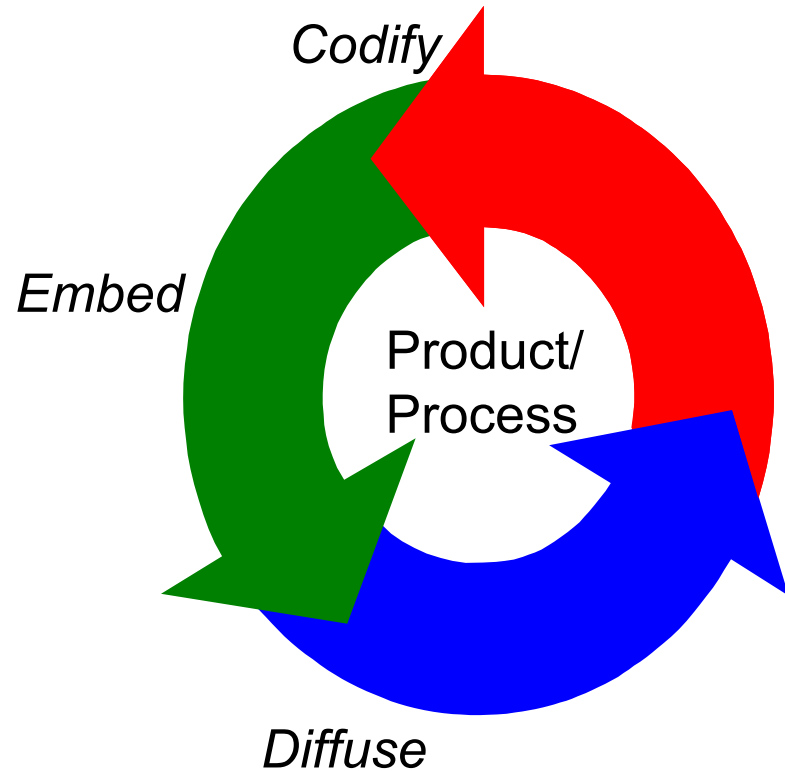
# Knowledge Management Cycles



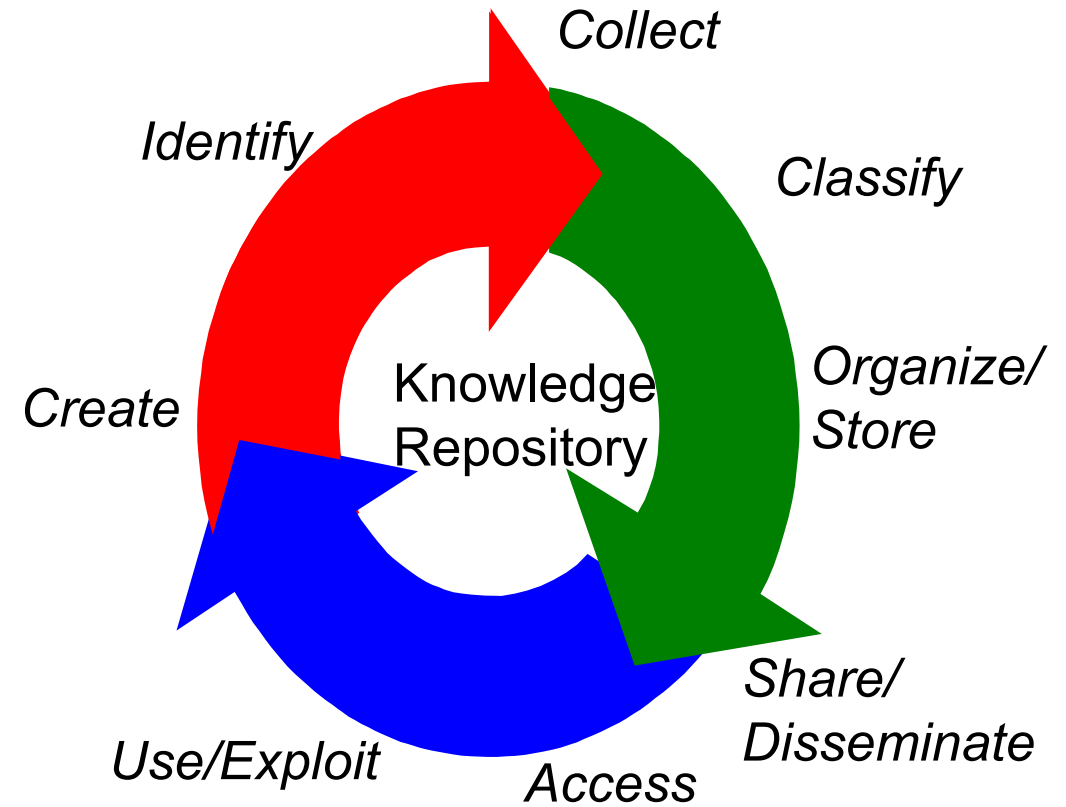
# Knowledge Cycle



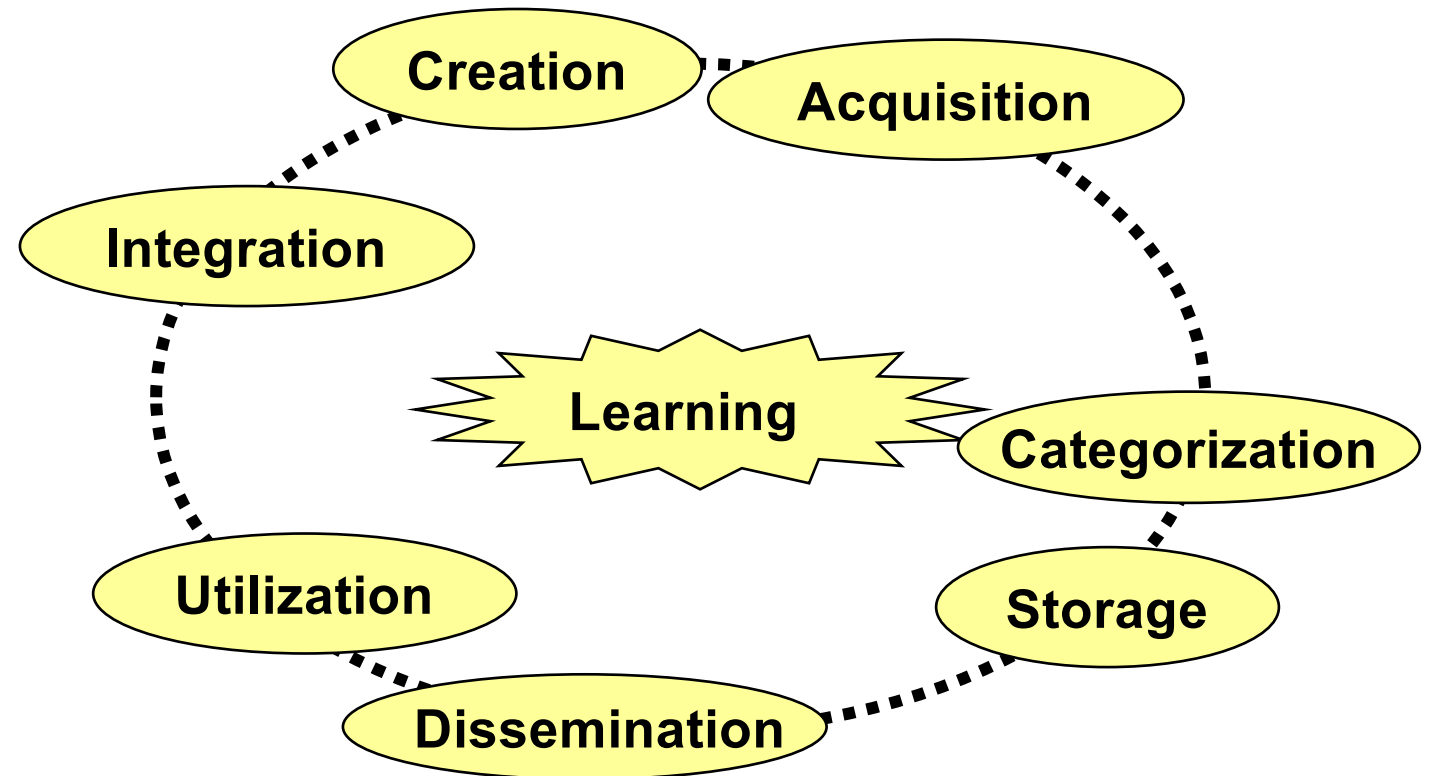
## Innovation Cycle



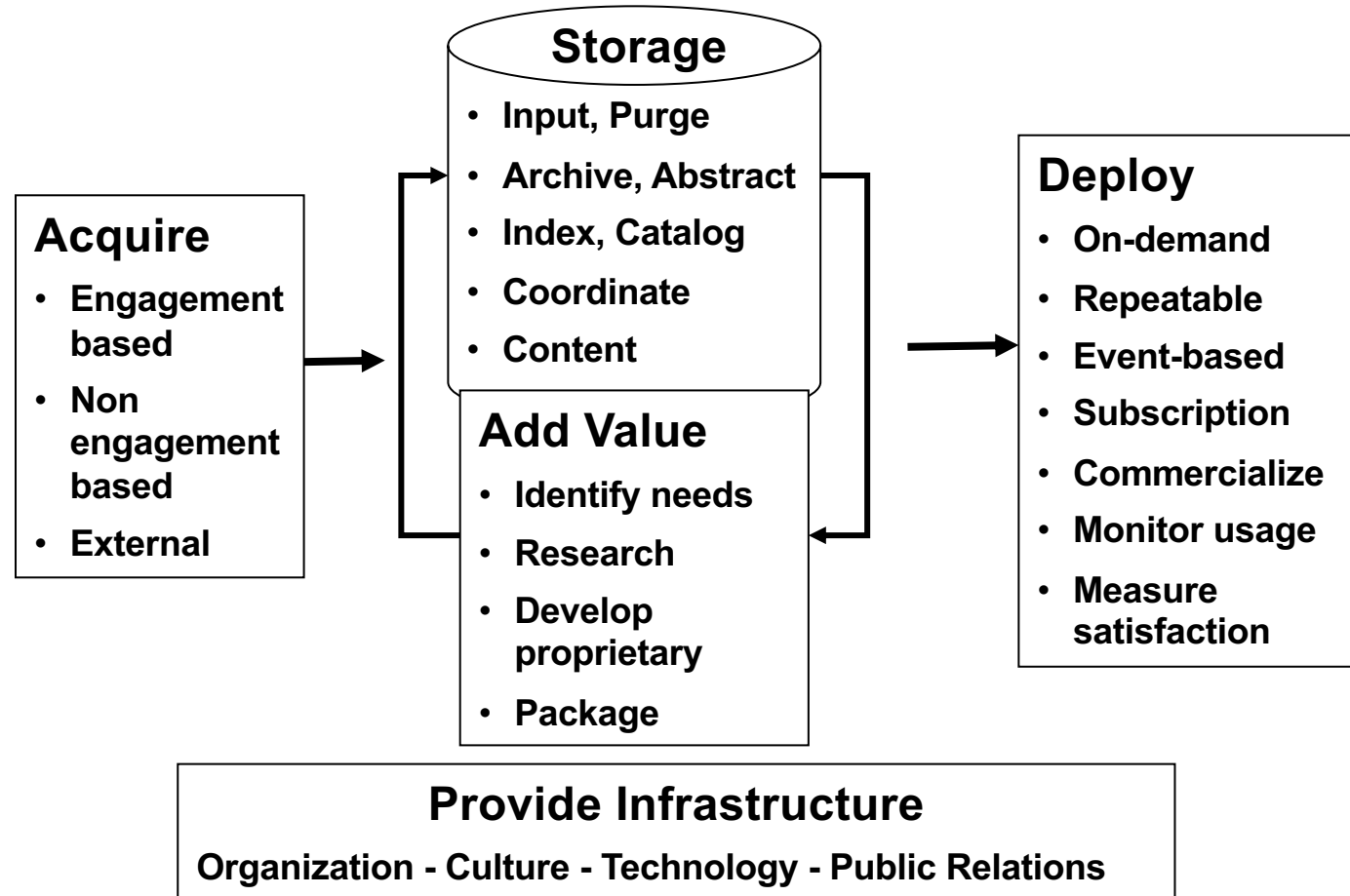
## Knowledge Management Cycle



# Knowledge Management Cycle



# Ernst & Young's Framework for Knowledge Management



# Knowledge Management Framework



A structure that provides guidance and support for managing, creating, and distributing organizational knowledge.



Serves as a strategic roadmap for managing, creating, and distributing various forms of knowledge within an organization.



Allow for the effective capture and leveraging of knowledge assets, resulting in enhanced productivity, engaged employees, and overall success.



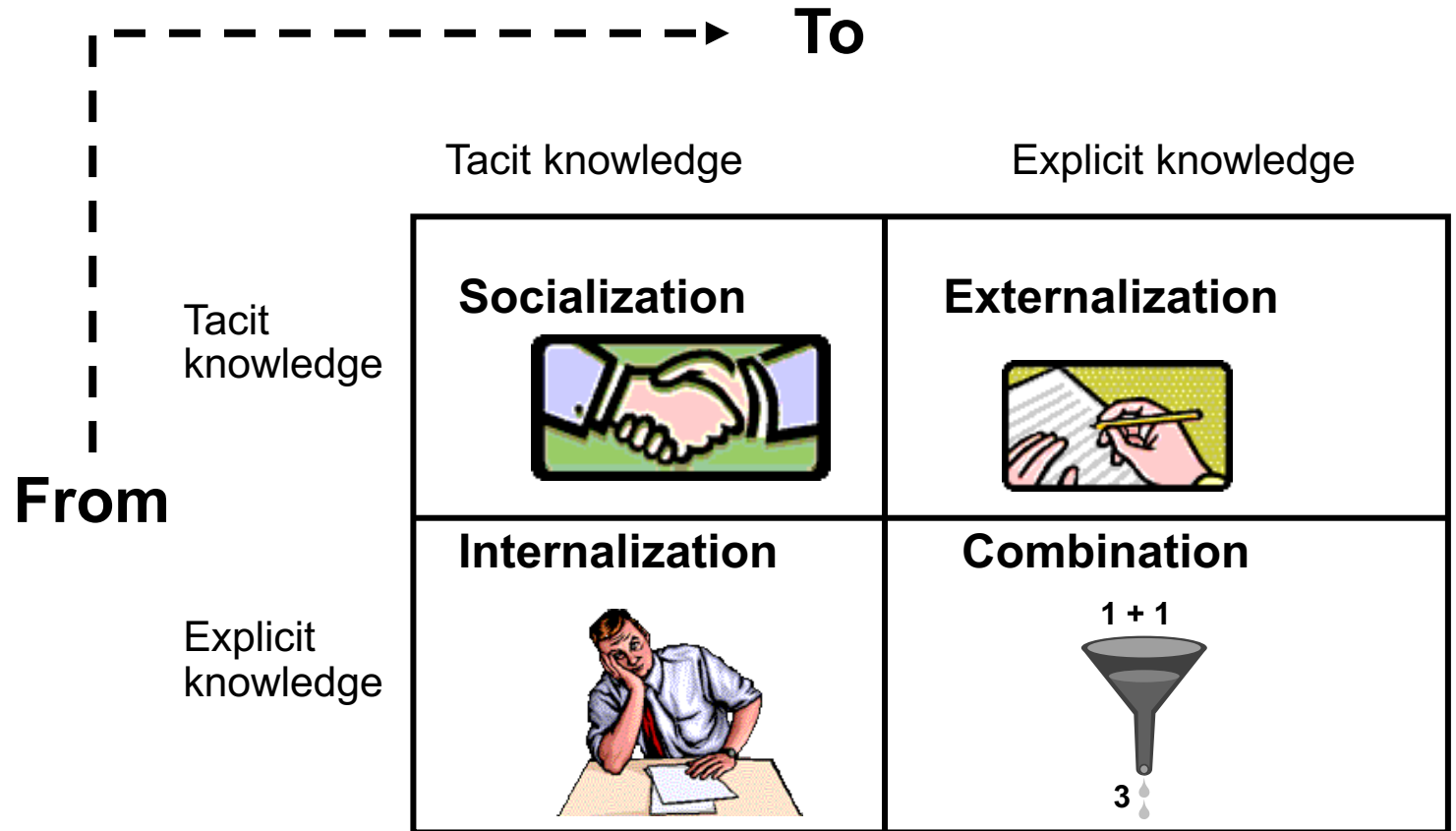
Facilitate the management of tacit knowledge, which encompasses transferable skills, best practices, and industry expertise in employees' minds and experiences



Help organizations to better understand the relationship between knowledge and innovation.



# SECI Model of Knowledge Management

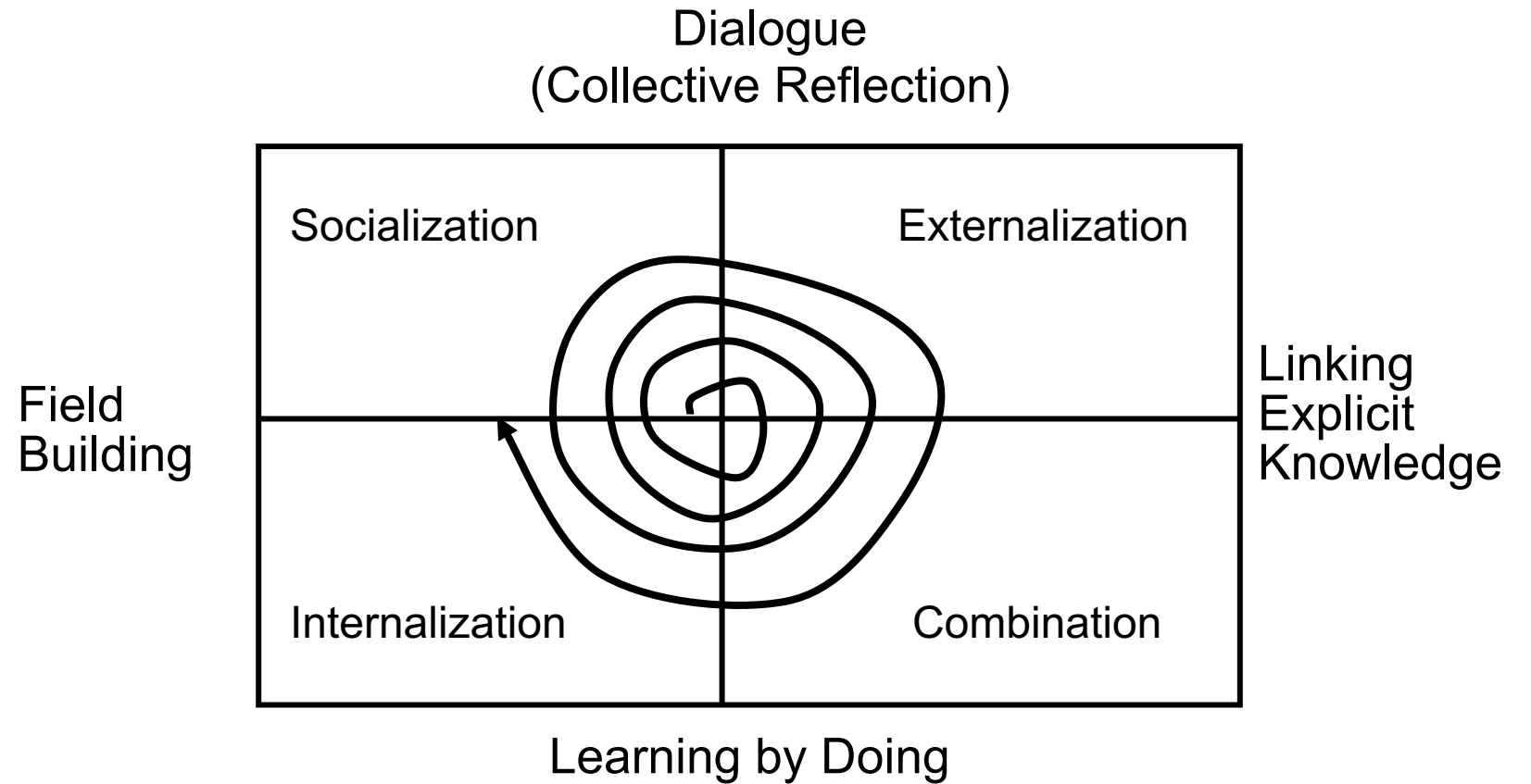


Source: *Knowledge-Creating Company*, p. 62.

# Four Modes of Knowledge Conversion

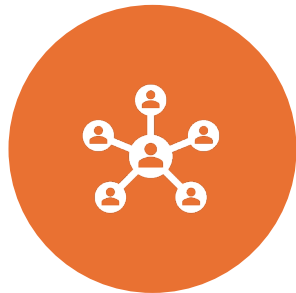
- **Socialization:**
  - A process of sharing experiences
  - Apprenticeship through observation, imitation, and practice
- **Externalization:**
  - A process of articulating tacit knowledge into explicit concepts
  - A quintessential knowledge-creation process involving the creation of metaphors, concepts, analogies, hypothesis, or models
  - Created through dialogue or collective reflection
- **Internalization:**
  - A process of embodying explicit knowledge into tacit knowledge
  - Learning by doing
  - Shared mental models or technical know-how
  - Documents help individual internalize what they experience
- **Combination:**
  - A process of systemizing concepts into a knowledge system
  - Reconfiguration of existing information and knowledge

# Knowledge Spiraling



Source: *Knowledge-Creating Company*, p. 71.

# Challenges in Building Knowledge Management Systems



**Culture** — getting people to share knowledge



**Knowledge evaluation** — assessing the worth of knowledge across the firm

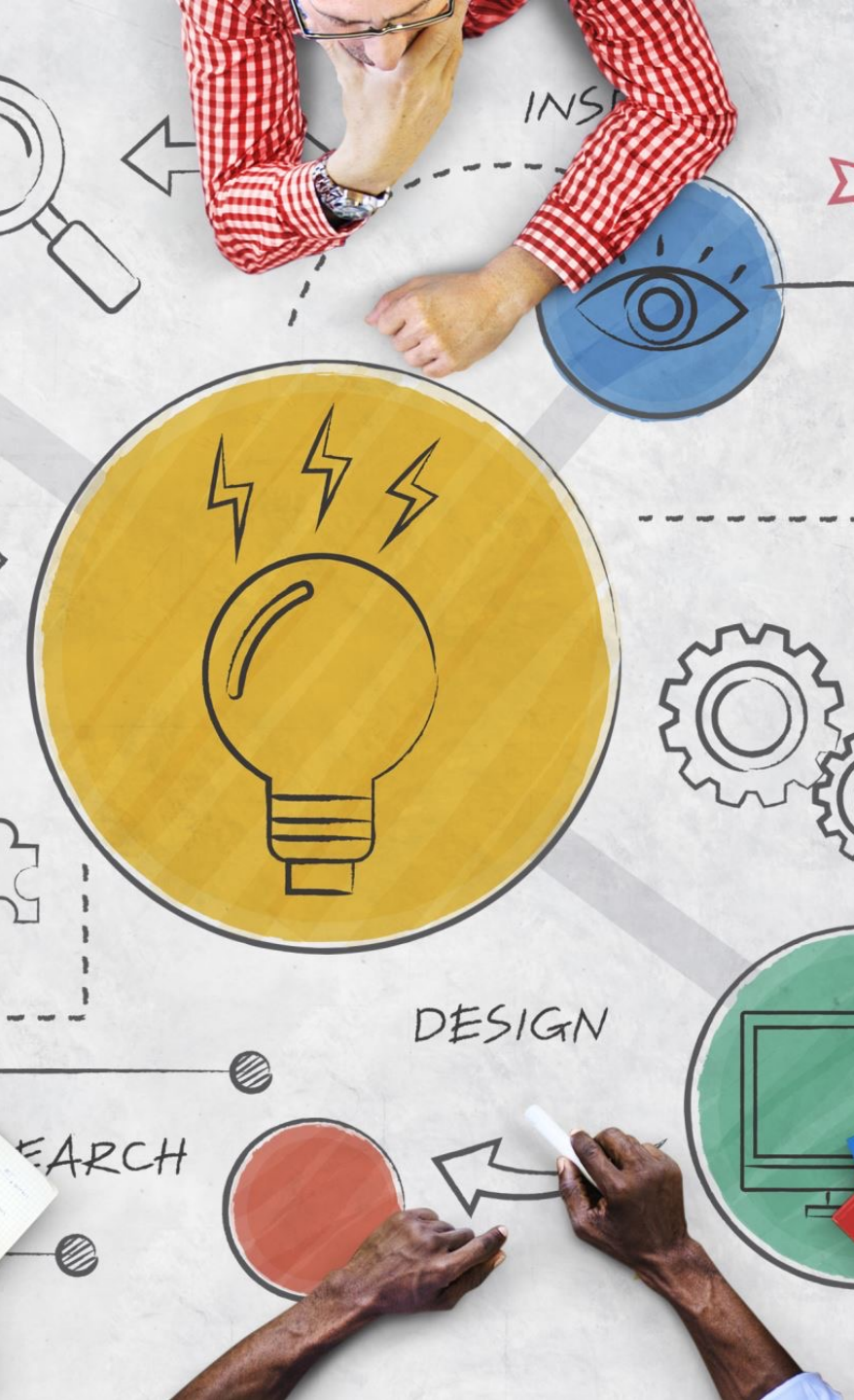


**Knowledge processing** — documenting how decisions are reached



**Knowledge implementation** — organizing knowledge and integrating it with the processing strategy for final deployment





## Thus...

- Innovation is closely related to knowledge management because innovation often requires the application of new knowledge or the combination of existing knowledge in new ways.
- Existing research suggests that knowledge management has a positive influence on innovation, but there is limited research on how knowledge mechanisms interact with innovation processes.
- By further exploring this relationship, organizations can develop more effective strategies for managing knowledge to support innovation.

# Knowledge vs. Technology

What is **technology**?

“The combination of human understanding of natural laws and phenomena accumulated since ancient times to make things that fulfil our needs and desires.”

- Technique
- Knowledge
- Organisation
- Product (four closely-linked elements)

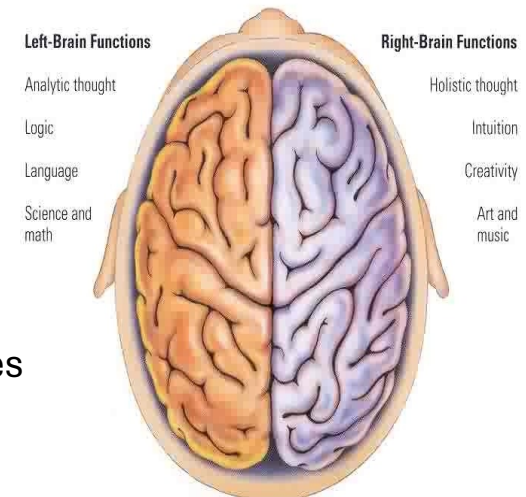


What is **knowledge**?

“Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provide a framework for evaluating and incorporating new experiences and information.”

- Truth
- Beliefs
- Perspectives
- Concepts
- Judgments
- Expectation
- Methodologies
- Know-how

Left and Right Brain Functions



# What Is Technology Transfer?

Flows of technological knowledge to market;

The movement of science and technology from one group to another group;

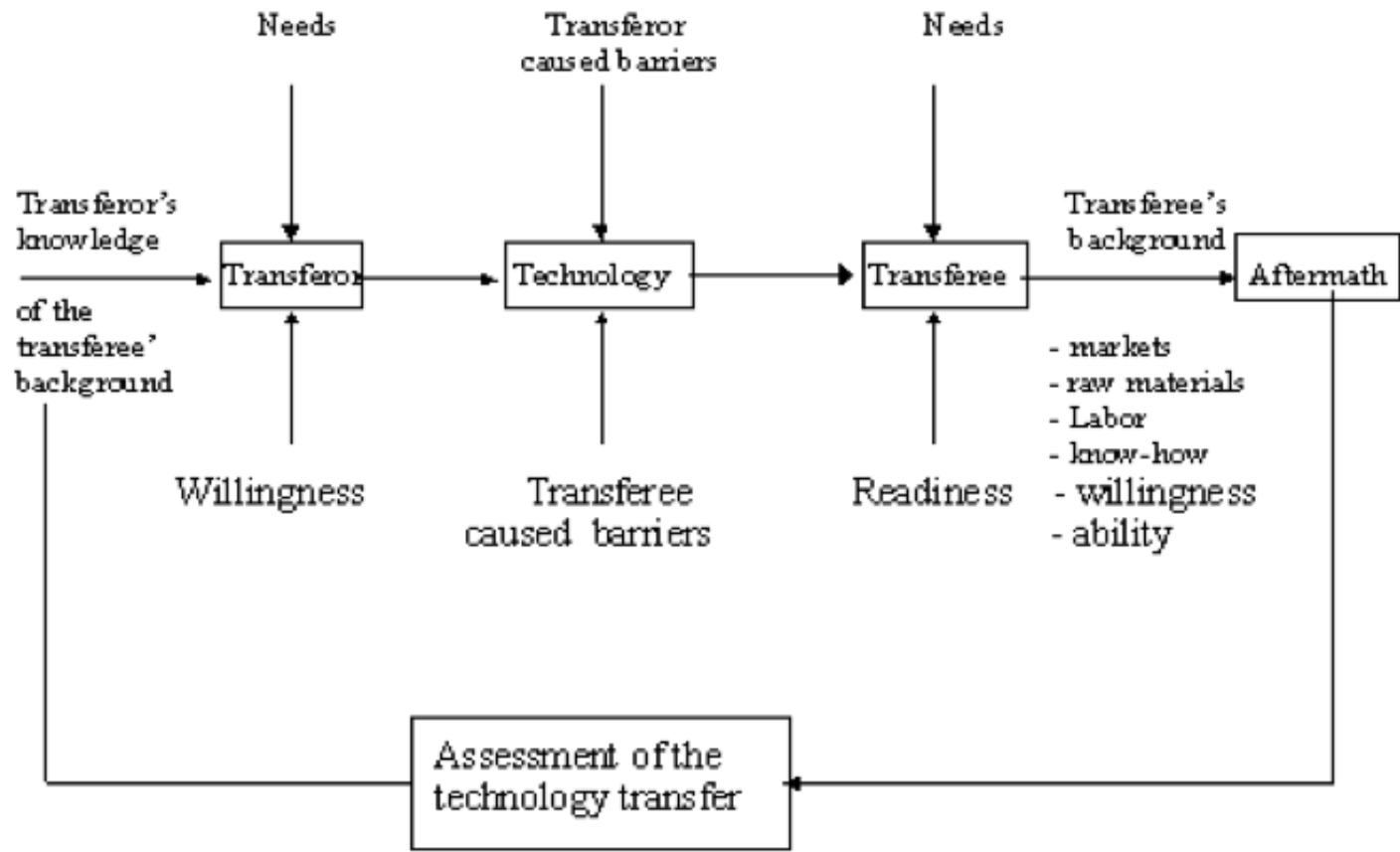
The transfer of hardware objectives, traditionally;

It often involves information (e.g. a computer software programme or a new idea);

“The transfer of systematic knowledge for the manufacture of a product or provision of service.”

Work Regulation of United Nations

# A Basic Model of Technology Transfer








## China Buktikan Komitmen Transfer Ilmu Kereta Cepat ke Indonesia

Menteri Perhubungan Budi Karya mengapresiasi pertukaran ilmu yang dilakukan produsen kereta cepat CRRC kepada Indonesia.

 **Crysania Suhartanto** - Bisnis.com  
Sabtu, 9 September 2023 | 20:29

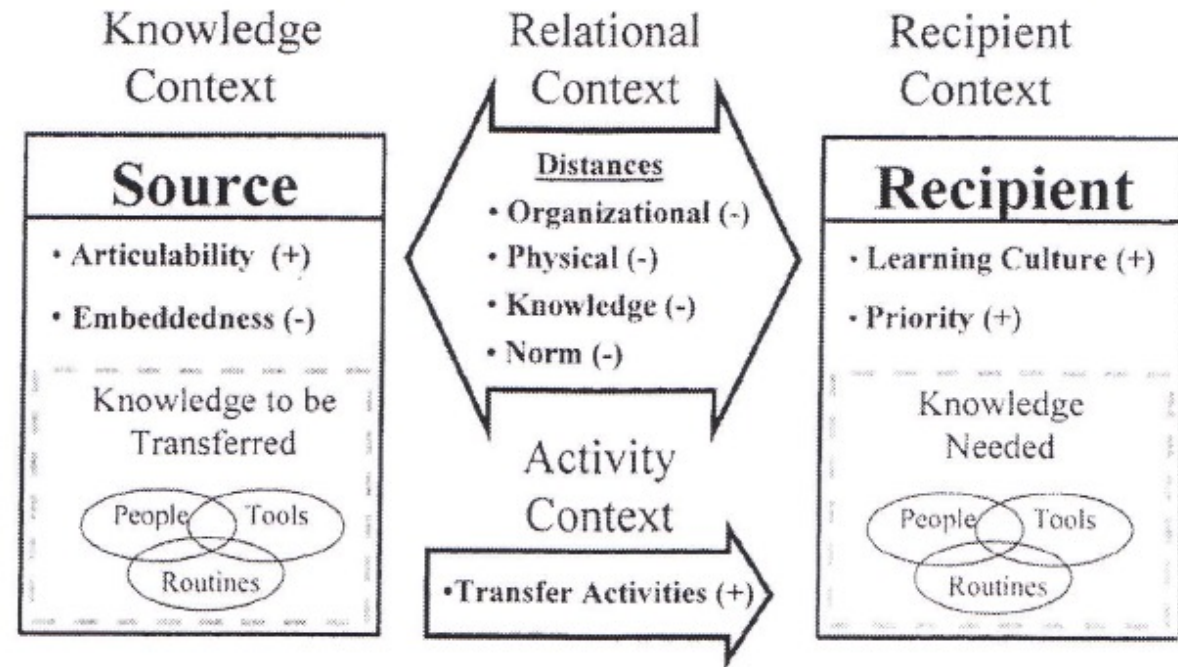
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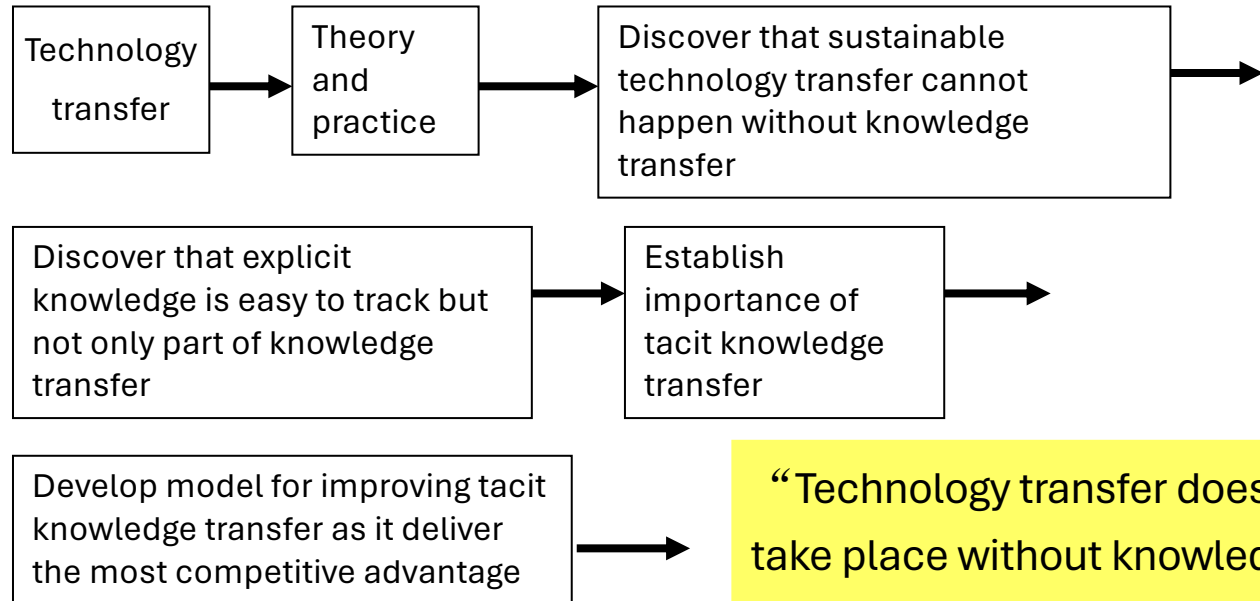
Masinis Kereta Cepat Jakarta-Bandung (KCJB) tengah mengoperasikan kereta untuk kembali ke Stasiun Halim Perdanakusuma, Sabtu (9/9/2023). / BISNIS - Crysania Suhartanto

(Cummings and Teng, 2003)

# Challenges and Barriers of Technology Transfer



# From Technology Transfer to Knowledge Transfer



(Li-Hua, 2006)

“Technology transfer does not take place without knowledge transfer, as knowledge is the key to control technology as a whole.”

# Categories of Tacit Knowledge

- **Hard to pin down skills-”know how”**

*The skills that people need to repeatedly practice and feedback and get the feel for them.*

- **Mental models or schema**

*How we understand cause-effect connections and what meaning we give to events.*

- **Ways of approaching problems**

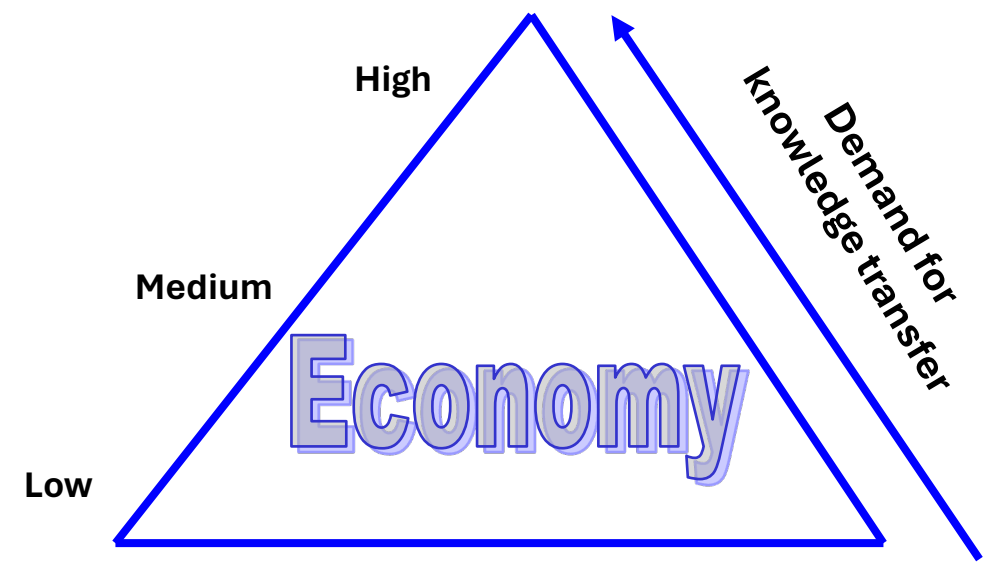
*Tacit knowledge underlines the decision trees people use.*

- **Organisational routine**

*Routine refers to regular and predictable behaviour patterns, including ways of producing things, ways of hiring and firing personnel, ways of handling inventory, decision-making procedures, advertising policy and R&D procedures, etc.*

# Relationship between Knowledge Transfer and Economic Development

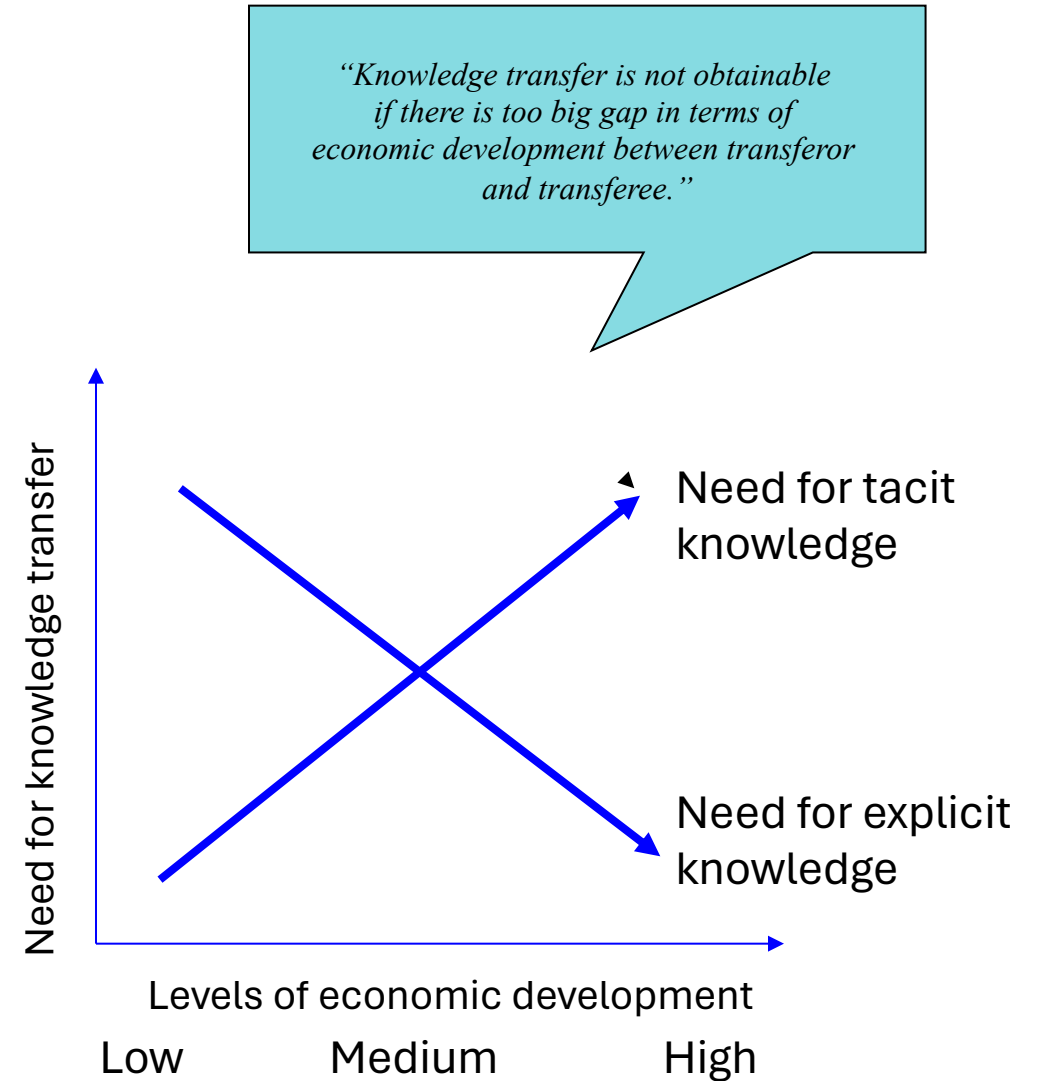
There are features of knowledge transfer that appear to be associated with levels of economic development. Certain aspects of knowledge transfer is paralleled by the notional line of economic development.



Relationship (notional hypotheses) between knowledge transfer and economic growth

# Relationship between Transfer of Explicit Knowledge and Tacit Knowledge

There is more demand for tacit knowledge transfer in well-developed region while there is more demand for explicit knowledge in less developed region.

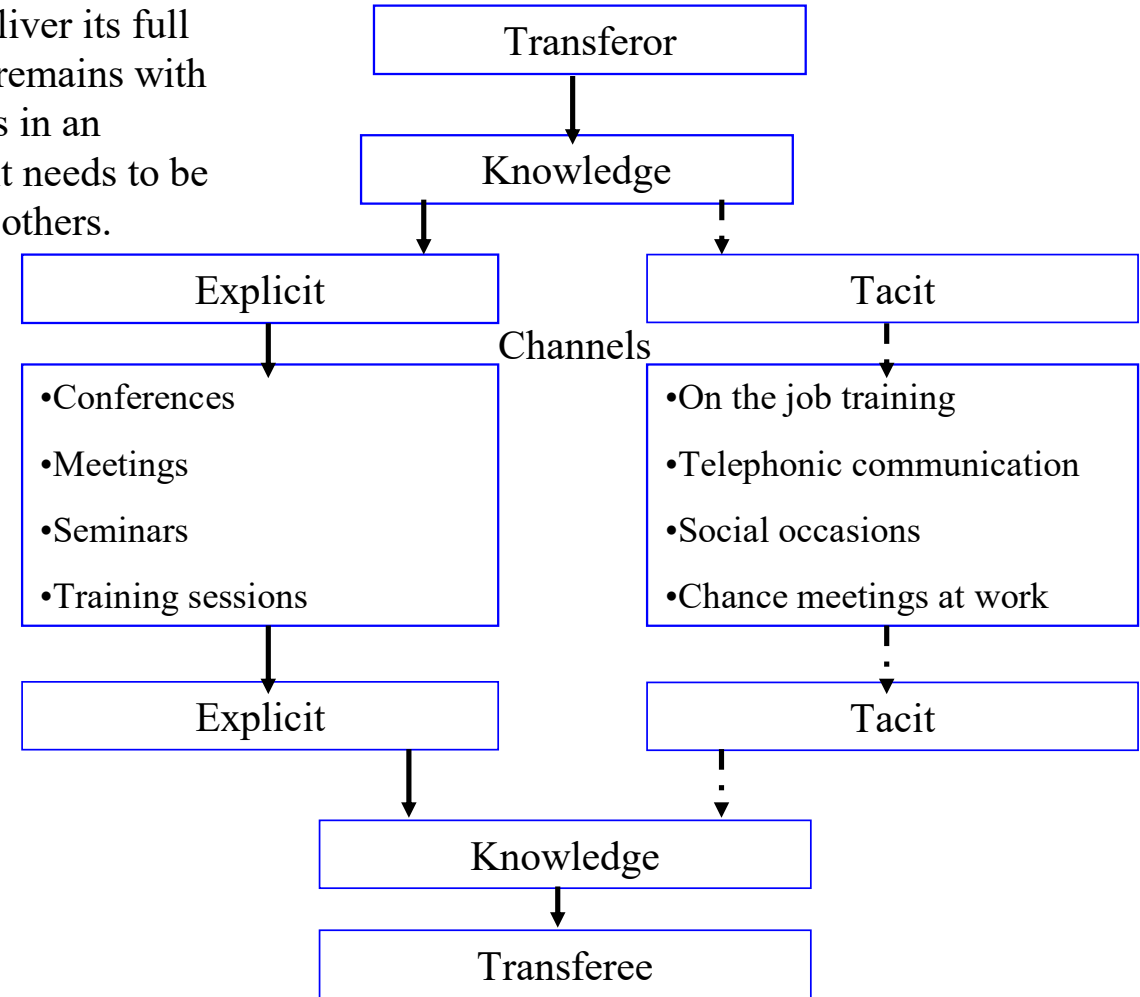


Relationship (notional hypotheses) between tacit knowledge transfer and explicit knowledge transfer



# Knowledge Transfer Process

New knowledge is unlikely to deliver its full potential if it remains with the originators in an organization-it needs to be transferred to others.



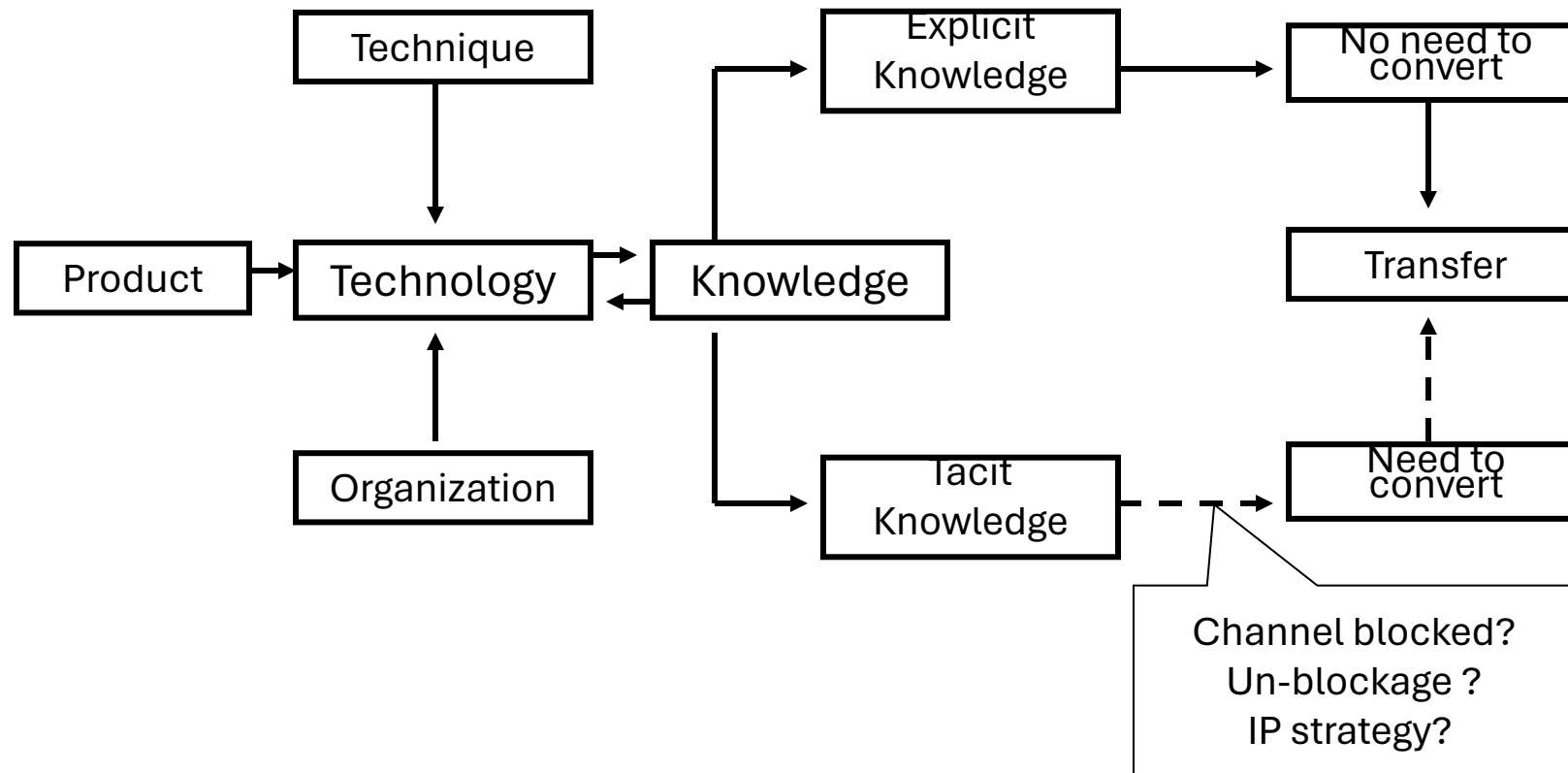


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## Tacit Knowledge Transfer

- **Knowledge**, in particular **tacit knowledge** that are the keys often to deliver the sustainable competitive advantage because it is this part that competitors have trouble in replicating.
- To provide sustained competitive advantage, we need **tacit knowledge** that is difficult for outsiders to copy as well as the ability to rapidly develop new knowledge.

# Problem Area: Channel Blockage of Tacit Knowledge Transfer



# Tacit Knowledge Transfer Is Achievable if ...

- 
- At **institutional level**: A strong IP framework and appropriate IP strategy are essential in achieving tacit knowledge transfer
  - However, at **personal level**, the following elements are important:
    - Trust and friendly relationship building
    - Motivation of knowledge transfer
    - Share a vision of future and develop a knowledge-sharing culture
    - Be aware of motivators and barriers
    - Think globally and act locally
    - Effective and appropriate communication
    - Cross-culture team building
    - Deal with defensive mechanisms



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## Un-blockage of Tacit Knowledge Transfer

- If technology transfer leverages the innovation capacity building, however the blockage of tacit knowledge transfer has to be properly addressed
- Strengthening IP framework and appropriate IP strategy will
  - accelerate the transfer of technology between the developed and the developing and
  - induce more technological innovation in the global economy
- IP strategy channels smooth technology transfer



# Some Takeaways

- Technology transfer presents both opportunities and challenges to the transferor and the transferee
- It is not surprising that the channel of technology transfer is blocked due to fear of losing competitive advantage. However, IP strategy is a key to un-block the channel
- Without a strong IP system, technology transfer is not achievable
- IP strategy leverages economic growth and development in both developed and developing countries
- It charts the strategic and operational guidance to achieve competitive advantage not only for the transferor but also for the transferee
- Appropriate IPR strategy represents a solid foundation on which knowledge economy can be built





# Homework Instruction

Create a **short video, less than 30 seconds**, to answer the following question: "**In the age of AI, do we still need knowledge management systems?**"

- Choose a social media platform: Select a social media platform where you will post your video, such as YouTube Shorts, Instagram Reels/Stories, Twitter/X, or TikTok.
- Plan your video: Decide on the key points you want to cover in your video. Consider the following questions: What is the role of knowledge management systems in the age of AI? How can AI enhance knowledge management systems? What are the potential challenges and limitations of AI in knowledge management?
- Script your video: Write a short script that covers the key points you want to make. Keep it concise and to the point. **Make it natural**, not as if it is a homework assignment (it is!)
- Record your video: Use a smartphone or a camera to record your video. Make sure the lighting is good and the sound is clear.
- Edit your video: Use a video editing app or software to edit your video. Trim it to the desired length and add any visuals or animations that will help convey your message. Add music or sound effects, if deemed necessary.
- Share your video: Post your video on the chosen social media platform. Use relevant hashtags and tags to increase its visibility. Send it to me before **Friday, March 29, 2024**.
- Remember to keep your video engaging, informative, and concise. Good luck!



**Danke schön**

Until next time