Knowledge Management

Department of Computer Systems and Communications

Academic Year: 2016-2017

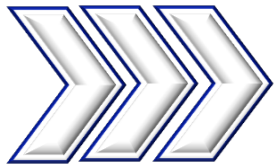## Knowledge, Learning, and Design

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Preliminary reflections

Knowledge and human power are synonymous, since the ignorance of the cause frustrates the effect.
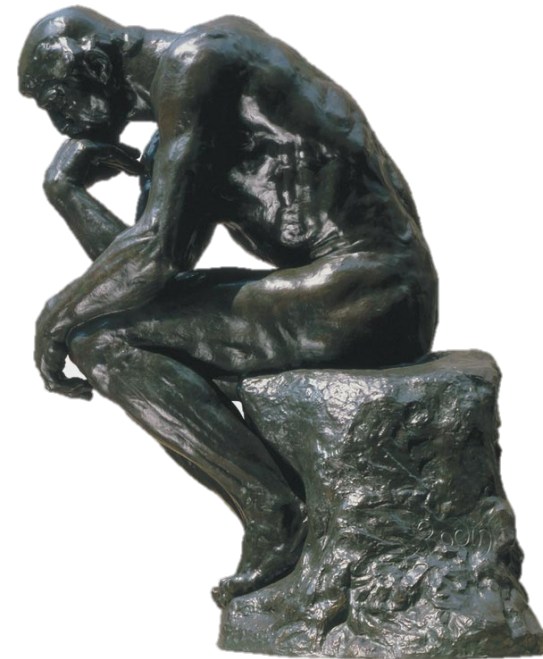
Francis Bacon

How can a new organization access and use knowledge in order to build its new venture?

The creation and management of knowledge can lead to new, novel applications and products. Sharing knowledge throughout a firm can enhance the firm's processes and core competences, thus making the firm more innovative and competitive.

Knowledge Influences Success

- ✓ *Peter Drucker* (the one factor)

- ✓ *Toffler* (Survival in Knowledge Age is not who can read or write but who can learn and unlearn quicker)

- ✓ *Nonaka* (the cutting edge)

- ✓ *Tom Peters* (sum total of value-added)

- ✓ *Drucker* (primary factor of productivity)

✓ ***Knowledge management (KM)*** may be defined simply as doing what is needed to get the most out of knowledge resources.

✓ KM focuses on ***organizing and making available*** important knowledge, wherever and whenever it is needed.

✓ Related to the concept of ***intellectual capital.***

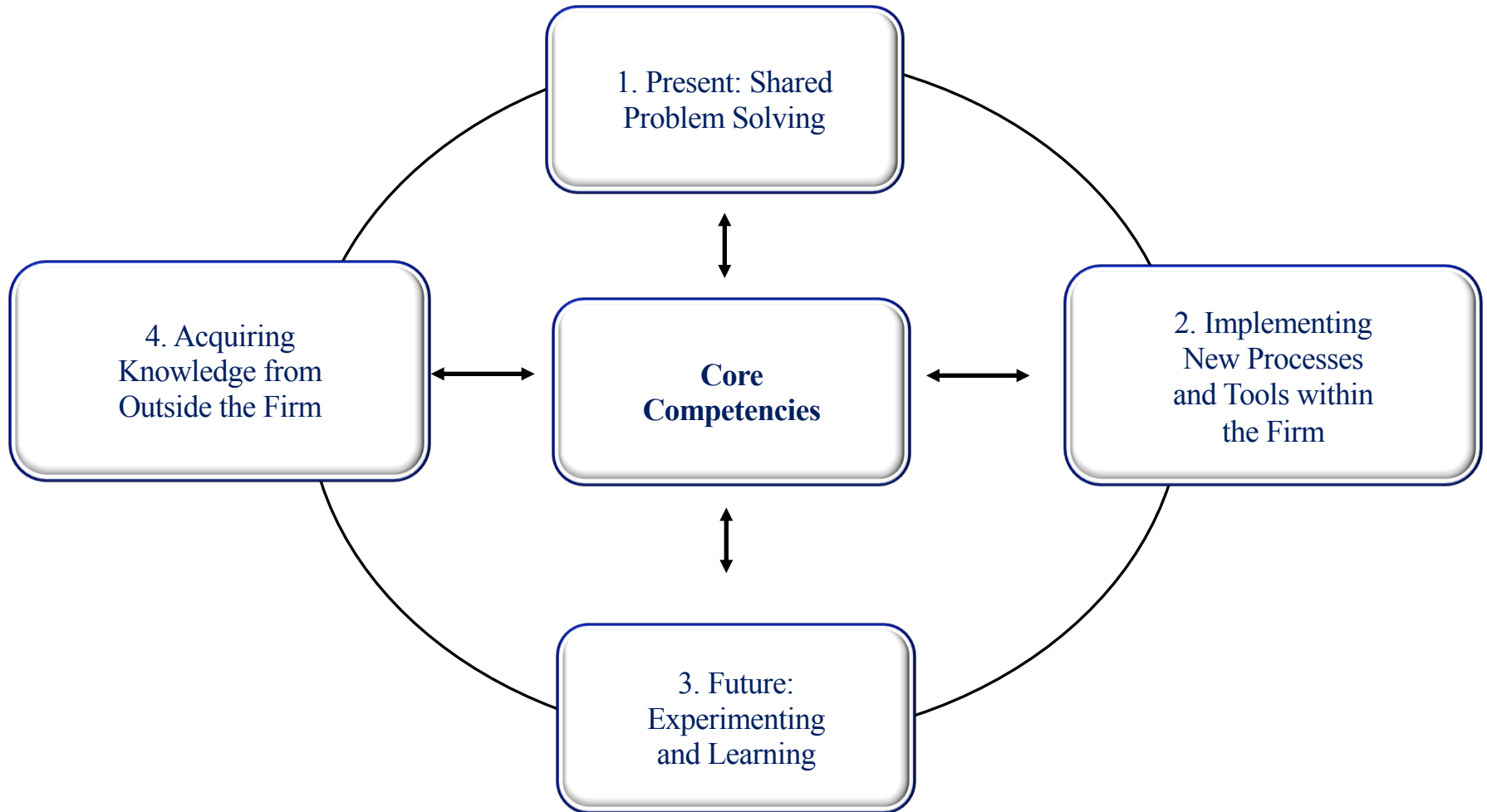**Knowledge** ➡ is the awareness and possession of information, facts, ideas, truths, and principles in an area of expertise.

Intellectual capital ➡ Intellectual capital is the sum of the knowledge assets of a firm.

The Knowledge Creating and Sharing Activities of A Firm

- 1. Present: Shared Problem Solving
- 2. Implementing New Processes and Tools within the Firm
- 3. Future: Experimenting and Learning
- 4. Acquiring Knowledge from Outside the Firm
- Core Competencies

How to manage the knowledge? A first taxonomy

Role ➡ Identify and evaluate the role of knowledge in the firm.

Value ➡ Identify the expertise, capabilities and intellectual capital that creates value in the form of products and Services.

Plane ➡ Create a plan for investing in the firm's intellectual capital and exploiting its value while protecting it from leakage to competitors.

Improve ➡ Improve the knowledge creation and sharing process within the new venture.
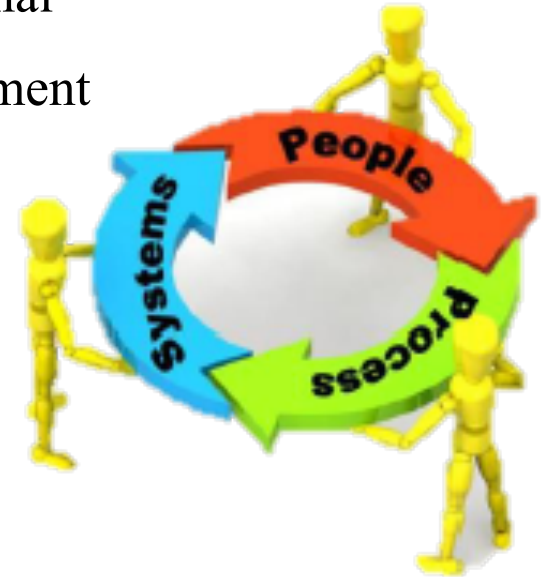
People and Systems

People

- ✓ **Knowledge Teams** - multi-disciplinary, cross-functional
- ✓ **Learning Organization** - personal/team/org development
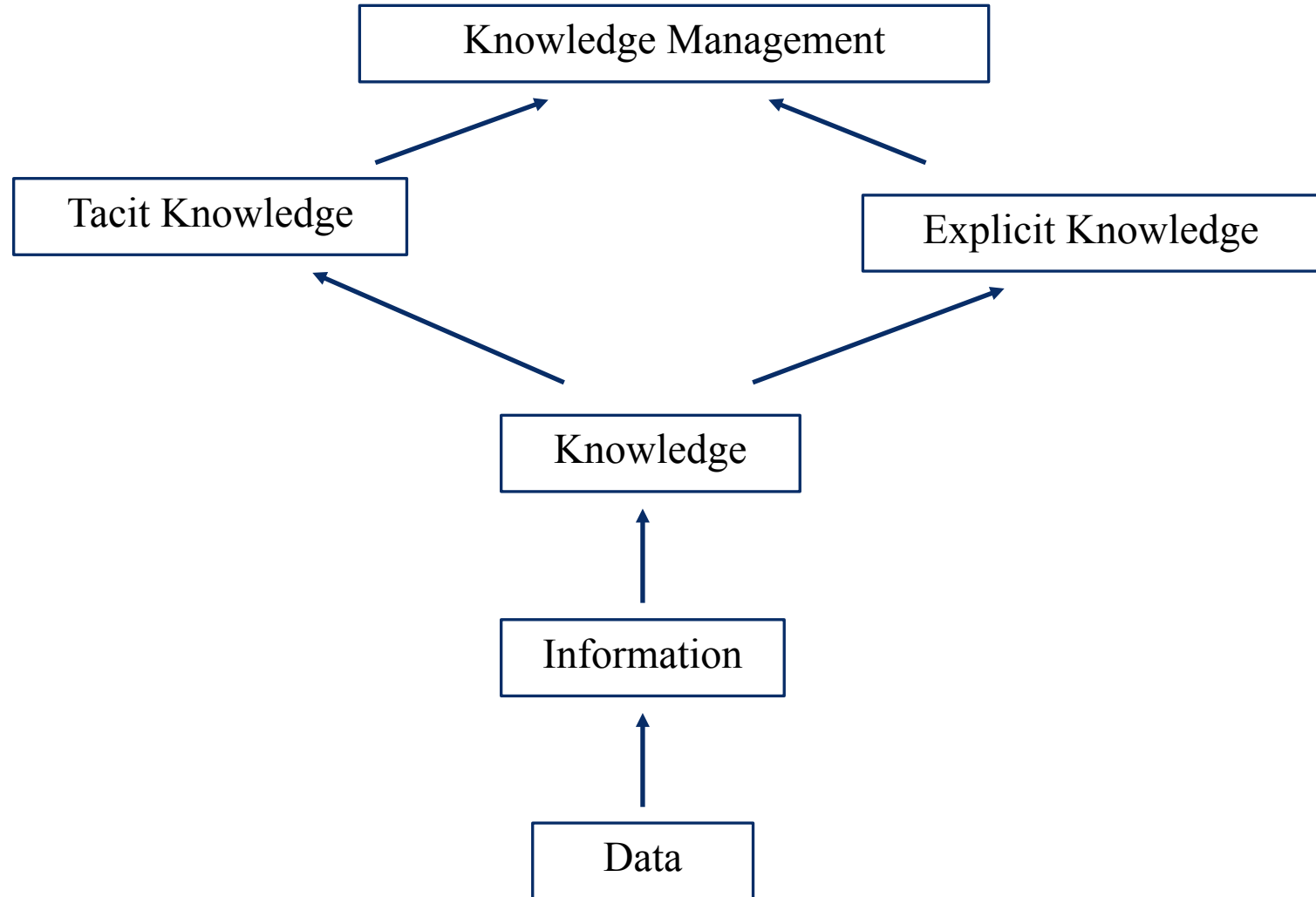- ✓ **Corporate Initiatives** - Chief Knowledge Officer

Systems

- ✓ **Knowledge Data-bases** - experts, best practice
- ✓ **Knowledge Centers** - hubs of knowledge
- ✓ **Technology Infrastructure** - Intranets, Domino Document Management

A **scenario** is an imagined sequence of possible events or outcomes, sometimes called a mental model.
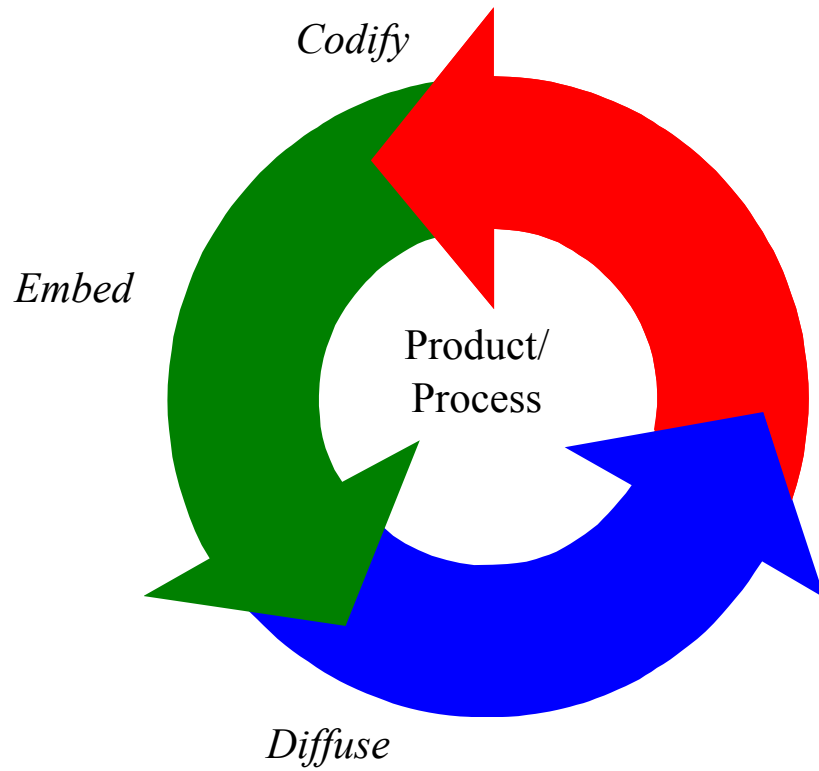
Knowledge Hierarchy

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                    ┌─────────────────────────┐
                    │  Knowledge Management   │
                    └─────────────────────────┘
                      ↗                     ↖
        ┌──────────────────┐        ┌──────────────────────┐
        │ Tacit Knowledge  │        │ Explicit Knowledge   │
        └──────────────────┘        └──────────────────────┘
                      ↖                     ↗
                    ┌─────────────────────────┐
                    │       Knowledge         │
                    └─────────────────────────┘
                               ↑
                    ┌─────────────────────────┐
                    │      Information        │
                    └─────────────────────────┘
                               ↑
                    ┌─────────────────────────┐
                    │         Data            │
                    └─────────────────────────┘
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Sharing existing knowledge
"Knowing what you know"

Knowledge for Innovation
"Creating <u>and</u> Converting"

Innovation Cycle Vs. Km Cycles

Innovation Cycle

KM Cycle

Codify
Embed
Create
Diffuse
Product/ Process

Collect
Identify
Classify
Organize/ Store
Share/ Disseminate
Access
Use/Exploit
Knowledge Repository
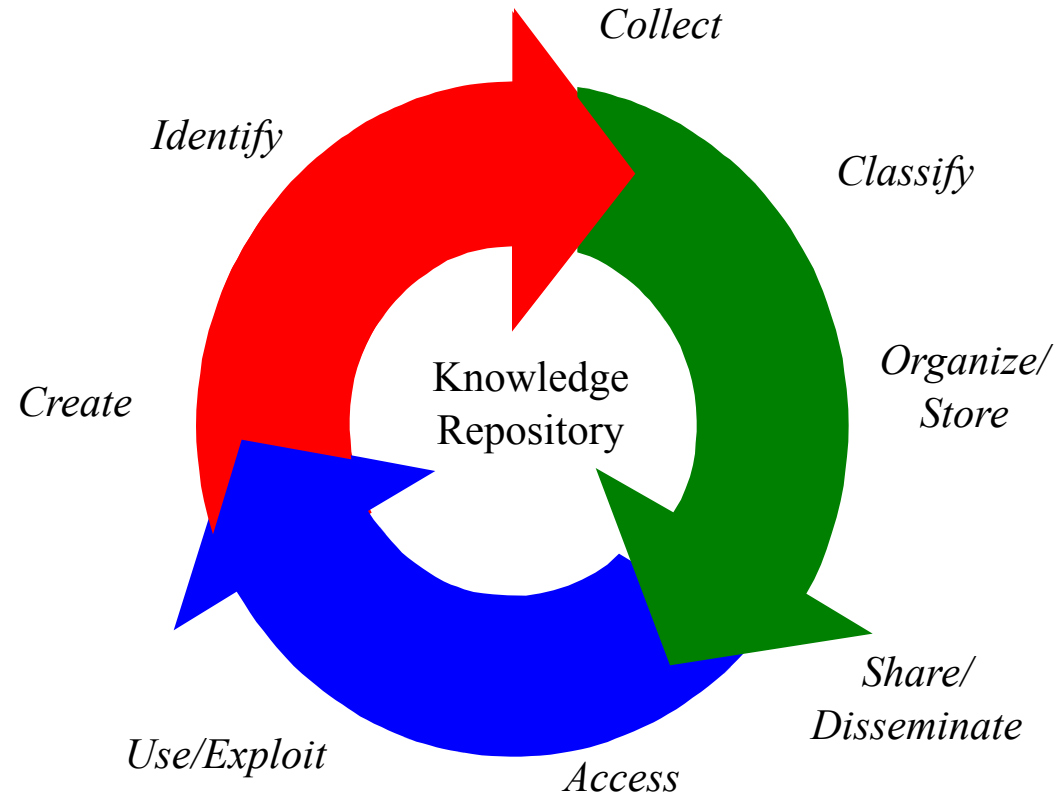
'Kinds' of Knowledge

Customer Knowledge - *the most vital knowledge*

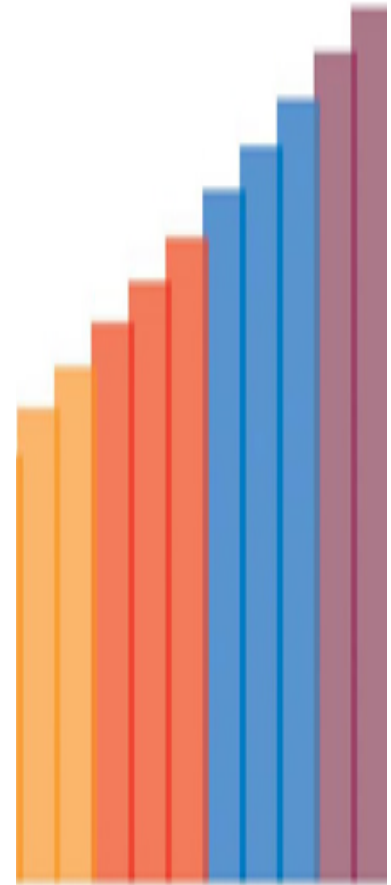**Knowledge in Products** - *'smarts' add value*

Knowledge in People - *but people 'walk'*

Knowledge in Processes - *know-how when needed*

Organizational Memory - *do we know what we know?*

Knowledge in Relationships - *richness and depth*

Knowledge Assets - *intellectual capital*

Knowledge Management and Small Companies

Smaller companies, who often claim that they can't afford to undertake KM activities, are *wrong* on two counts!
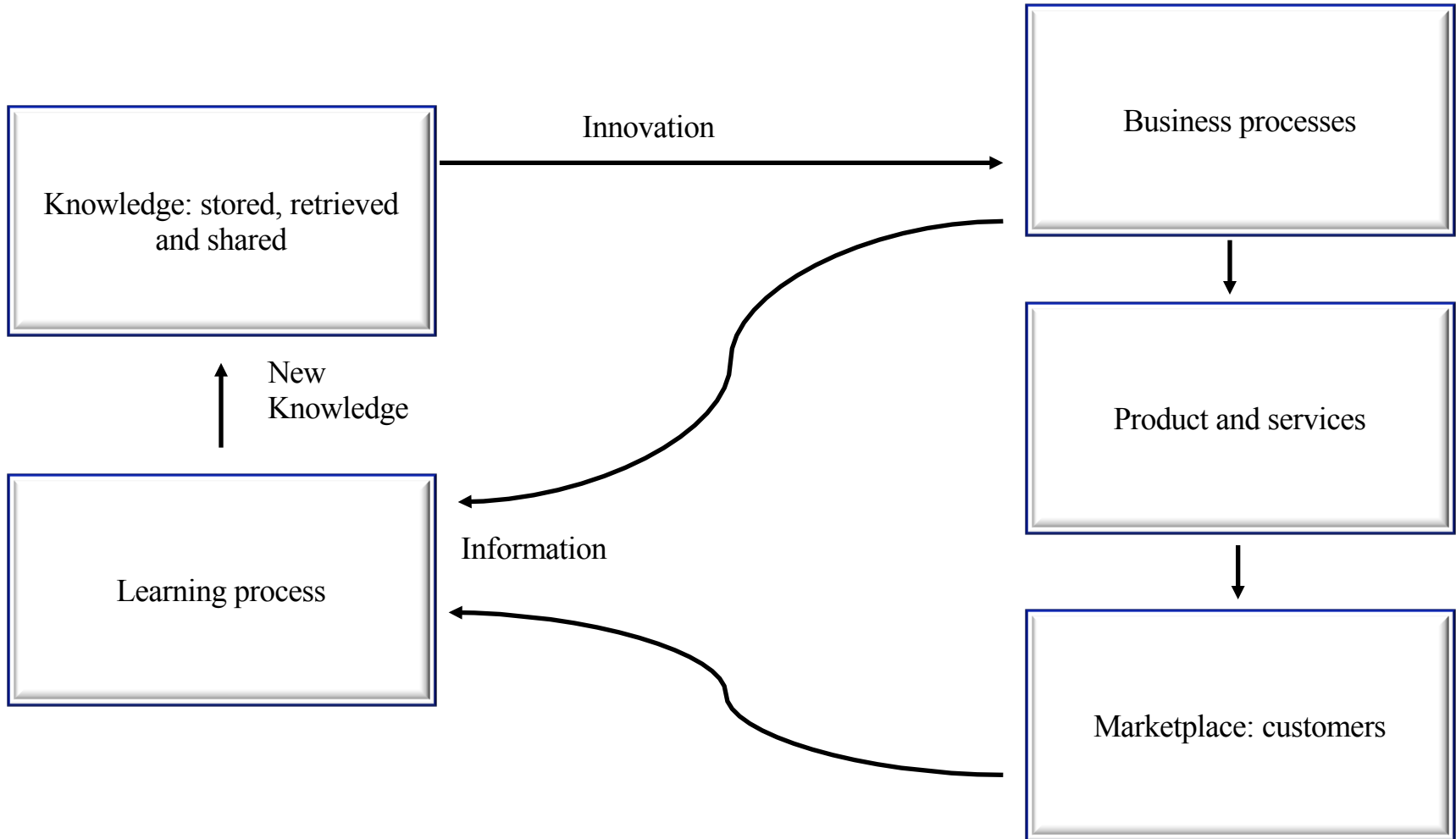
1. Knowledge is just as important, if not more so, to a smaller company trying to compete in the rapidly changing global marketplace. Smaller companies must capture, assimilate, and capitalize on every advantage they can find, including **KNOWLEDGE**

2. Smaller firms have the advantages from *Culture and Organizational structure* in place that is much more conducive to implementing knowledge management effort such as type of environment, which is predicated more on social relationship, familiarity and trust between employees.
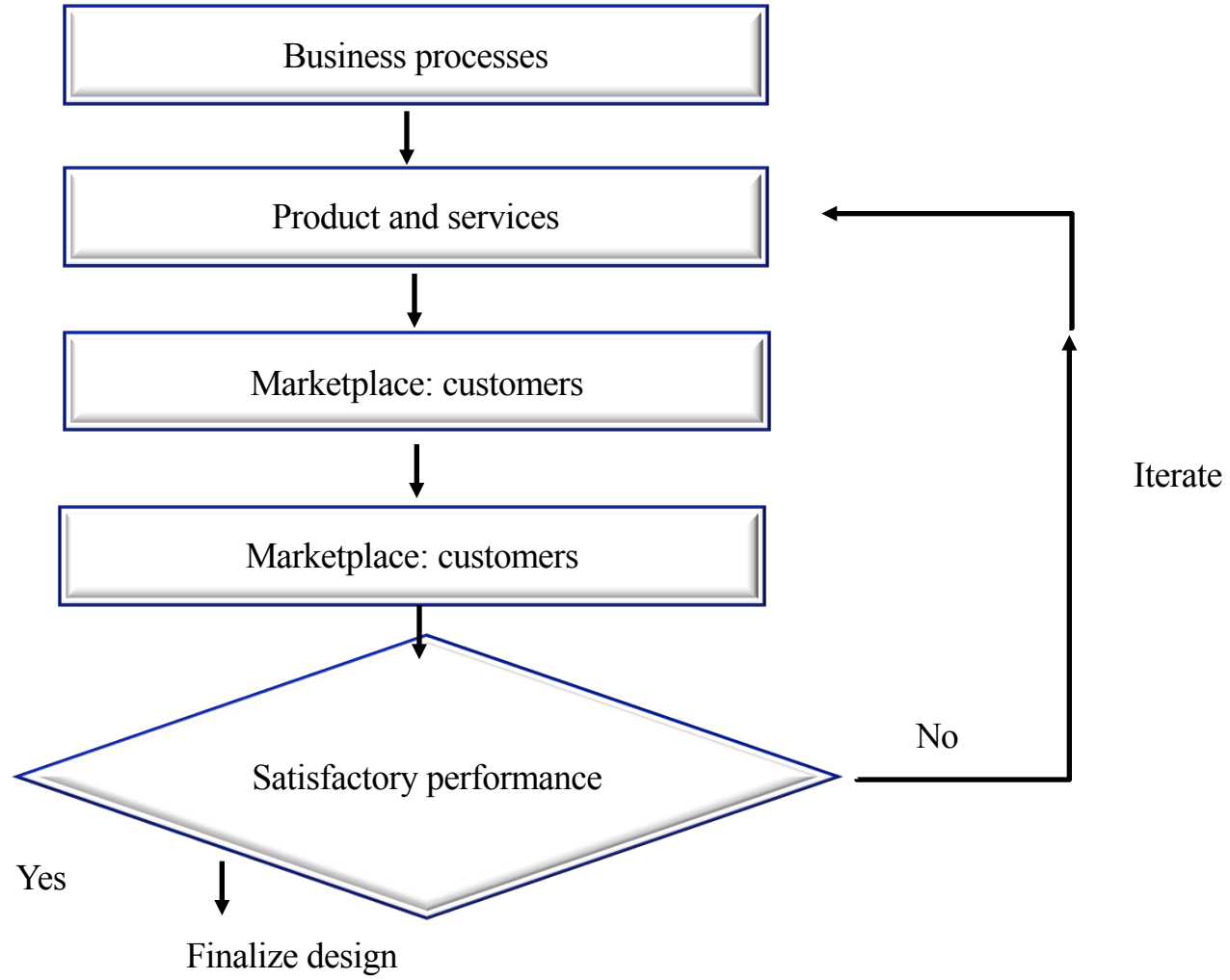
A learning organization is skilled at *creating, acquiring, and sharing new knowledge* and at adapting its activities and behaviour to reflect new knowledge and insights.

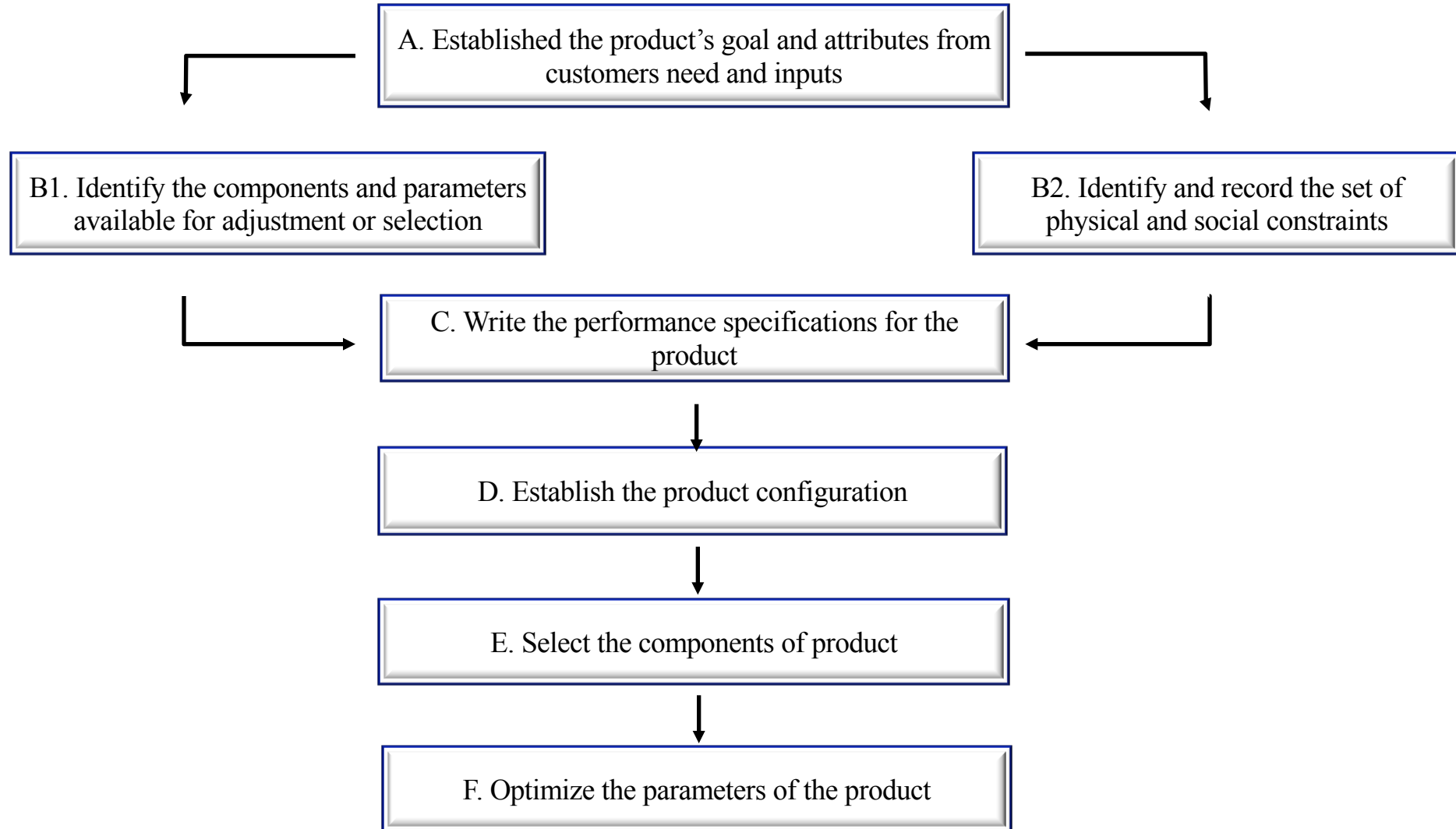| Step	Question	Outcome or Action Required
Identify the problem or opportunity	What do we want to change?	Desired specific result
Analyse the problem or opportunity	What is the key cause of the problem?	Key cause identified
Generate potential solutions	How can we make a positive change?	A list of possible solutions
Select a solution and create a plan	What's the best way to do it?	Establish a criteria, select the best solution and set a plan to accomplish it
Implement the selected plan	How do we implement the plan effectively?	Monitor the implementation
Evaluate the outcome and learn from the results	How well did the outcome match our desired result?	Verify that the problem is solved. Why did it work?

Knowledge and learning within technology firm

Knowledge: stored, retrieved and shared

Innovation

Business processes

New Knowledge

Learning process

Information

Product and services

Marketplace: customers

Overall development process

Product design process

A. Established the product's goal and attributes from customers need and inputs

B1. Identify the components and parameters available for adjustment or selection

B2. Identify and record the set of physical and social constraints

C. Write the performance specifications for the product

D. Establish the product configuration

E. Select the components of product

F. Optimize the parameters of the product

Knowledge acquired, shared, and used is a *powerful tool for the entrepreneur to build an innovative, learning organization* that can compete and grow effectively.

KM should not distance itself from the knowledge owners, but instead celebrate and recognize their position as experts in the organization.

Questions ???