

models of Knowledge Management

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**Boisot's Knowledge
Category Models**

02

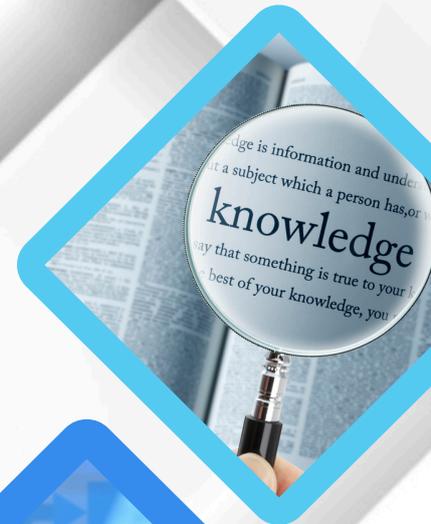
**Nonaka's Knowledge
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Introduction

Knowledge management (KM) plays a crucial role in enhancing organizational learning, innovation, and competitiveness. Over the years, several models have been developed to explain how knowledge is created, shared, and applied within organizations. These models, such as those proposed by Nonaka and Hedlund, Boisot, and Skandia, offer different perspectives on the processes and structures that support effective knowledge flow.

Understanding these models helps organizations manage both tacit and explicit knowledge more strategically to improve decision-making and performance.

1

BOISOT'S KNOWLEDGE CATEGORY MODELS

In 1987, Boisot developed a model that classifies organizational knowledge based on two dimensions: codified vs. uncoded and diffused vs. undiffused.

1. Codified vs. Uncodified (Tacit):

- Codified: Knowledge that is explicit, formalized, written down, and easy to communicate (e.g., a manual or a rulebook).
- Uncodified (Tacit): Knowledge that is implicit, residing in experience, skill, or intuition, and difficult to articulate or share.

2. Undiffused vs. Diffused (Shared):

- Undiffused: Knowledge that is localized and held by a single person or a small, private group.
- Diffused: Knowledge that is widespread and easily accessible to a large population.

the four Knowledge Categories: the intersection of these dimensions defines the four categories:

Category	Codification	Diffusion	Example
propriety knowledge	codified	undiffused	a confidential company patent or an internal strategy document.
public knowledge	codified	diffused	a published textbook or an open-source standard.
personal knowledge	uncodified	undiffused	an experts unique intuition or unwritten skill.
common sense	uncodified	diffused	shared cultural norms or widely accepted -rules of thumb-

This model is often used to show how knowledge is created and flows through an organization via the Social Learning Cycle, which describes the movement of knowledge from an individual's uncoded insight (Personal Knowledge) to codified, public rules (Public Knowledge).

2

NONAKA'S KNOWLEDGE MANAGEMENT MODEL

This figure represents Nonaka and Takeuchi's SECI Model of Knowledge Conversion (1995) — showing how knowledge transforms between tacit and explicit forms:

From → To	Tacit	Explicit
Tacit	<u>Socialization</u> : sharing tacit knowledge through shared experiences, observation, or imitation (e.g., an apprentice learning by watching a mentor).	<u>Externalization</u> : converting tacit knowledge into explicit form through articulation, writing, or models (e.g., writing a manual or explaining an idea).
Explicit	<u>Internalization</u> : transforming explicit knowledge into tacit knowledge through practice and experience (e.g., learning from reading or training).	<u>Combination</u> : integrating different explicit knowledge sources into new explicit knowledge (e.g., compiling reports or databases).

This table shows four ways knowledge moves and transforms in organizations — forming a continuous cycle (SECI: Socialization, Externalization, Combination, Internalization) that fuels learning, innovation, and knowledge creation.

3

HEDLUND AND NONAKA'S KNOWLEDGE MANAGEMENT MODEL

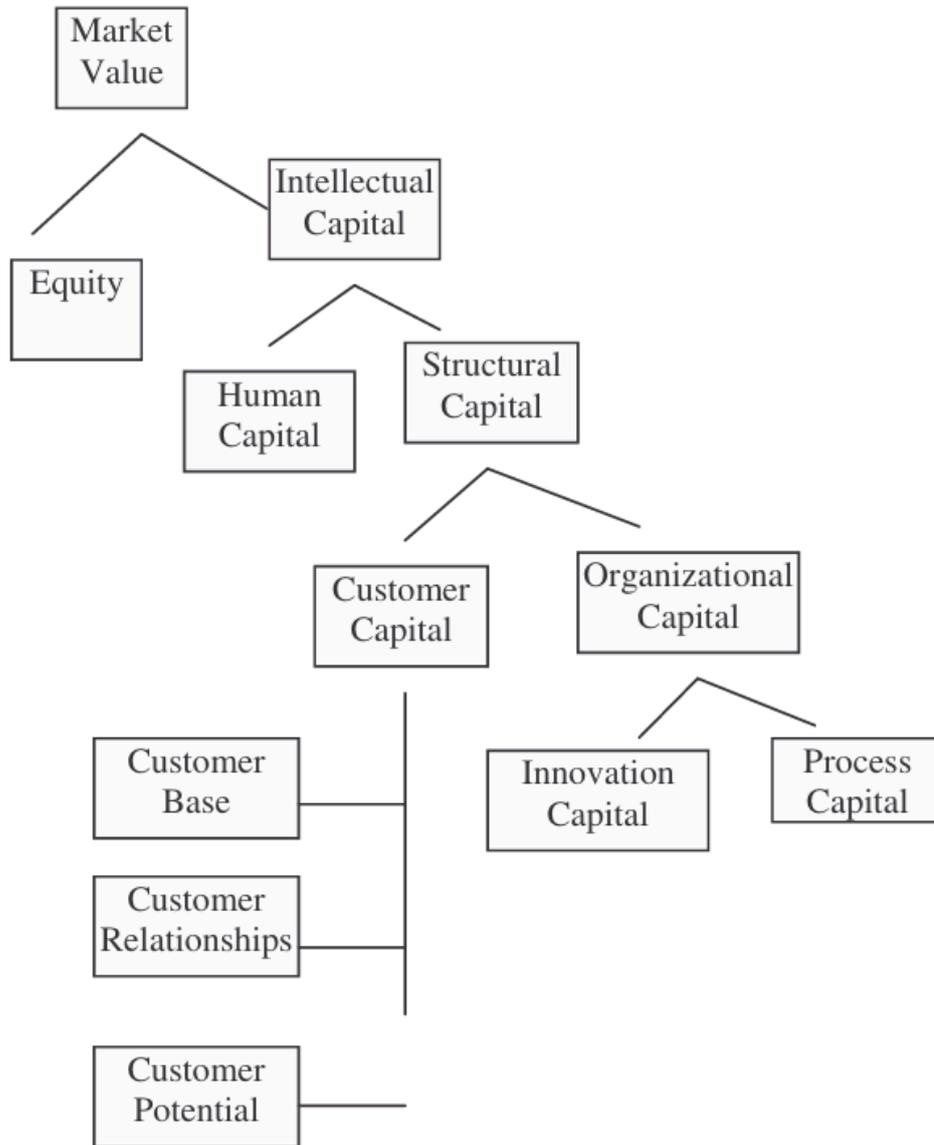
HEDLUND AND NONAKA EXPANDED ON NONAKA'S EARLIER SECI MODEL (SOCIALIZATION, EXTERNALIZATION, COMBINATION, INTERNALIZATION). THE MODEL IS CALLED THE "N-FORM ORGANIZATION" OR MULTI-LEVEL KNOWLEDGE CREATION MODEL, WHICH EXPLAINS HOW KNOWLEDGE FLOW AND TRANSFORMS ACROSS DIFFERENT LEVELS OF THE ORGANIZATION — FROM INDIVIDUALS TO THE ENTIRE ORGANIZATION — AND ACROSS DIFFERENT FORMS (TACIT AND EXPLICIT).

	Individual	Group	Organization	Inter-organizational Domain
Articulated knowledge	Knowing calculus	Quality Circle's documented analysis of its performance	Organization chart	Supplier's patents and documented practices
Tacit knowledge	Cross-cultural Negotiation Skills	Team coordination in complex work	Corporate Culture	Customer's attitudes to products and expectations

- KNOWLEDGE IS TRANSFERRED AND FORMED IN FOUR PLACES INSIDE AND OUTSIDE THE COMPANY: THE INDIVIDUAL, THE GROUP, THE ORGANIZATION, AND EXTERNAL PARTNERS (CUSTOMERS AND SUPPLIERS)
- IT CLARIFIES WHERE THE KNOWLEDGE IS FOUND (EXPLICIT OR TACIT) AND HOW IT IS TRANSFERRED BETWEEN THESE FOUR LEVELS

4

SKANDIA INTELLECTUAL CAPITAL MODEL OF KNOWLEDGE MANAGEMENT



- THE TRUE VALUE OF A COMPANY COMES FROM ITS INTANGIBLE ASSETS (INTELLECTUAL CAPITAL), WHICH MUST BE MEASURED AND MANAGED.
- IT DIVIDES THE COMPANY'S VALUE INTO TWO PARTS: HUMAN CAPITAL (EMPLOYEES' EXPERTISE) AND STRUCTURAL CAPITAL (WHAT THE COMPANY OWNS, SUCH AS SYSTEMS AND CUSTOMER RELATIONSHIPS).

Case Study: Toyota's Knowledge Creation Process

Introduction:

Toyota, one of the world's leading automobile manufacturers, is often cited as a successful example of Nonaka's Knowledge Management (KM) model. The company effectively uses the SECI model – Socialization, Externalization, Combination, and Internalization – to manage and create organizational knowledge.

Application of the SECI Model:

Socialization (Tacit to Tacit):

Toyota encourages employees to share hands-on experiences through on-the-job training and team discussions. For instance, experienced engineers mentor new recruits directly on the factory floor, transferring tacit skills and know-how that cannot be captured in manuals.

Externalization (Tacit to Explicit):

Workers' insights are turned into explicit knowledge. For example, when a technician develops a new problem-solving method, it is documented in reports or shared in meetings so it can be applied across teams.

Combination (Explicit to Explicit):

Toyota integrates documented knowledge from different departments (design, production, quality control) into standardized procedures and manuals – improving efficiency and innovation.

Internalization (Explicit to Tacit):

Employees learn and internalize these procedures through practice and repetition, transforming documented knowledge into personal skills and experiences – completing the SECI spiral.

Conclusion:

By continuously cycling through the SECI process, Toyota sustains innovation and quality improvement. The Nonaka model helps Toyota balance tacit and explicit knowledge, ensuring that employee experience becomes organizational learning – a key factor in its long-term success.

TechGlobal Case Study: Hamelund and Nonaka Model

TechGlobal Electronic Industries specializes in designing and manufacturing automotive components across three main production branches (Japan, Germany, and Mexico). To address efficiency disparities caused by undocumented tacit skills in the Japanese branch, the Hamelund and Nonaka Model was applied. The process began with Socialization, where the tacit expertise of Japanese workers was transferred to their counterparts in other branches through direct, on-site immersion. This was followed by Externalization, where experts converted this skill into written and documented operating manuals (explicit knowledge).

In the Combination phase, headquarters standardized these manuals with existing corporate procedures and disseminated them via the ERP systems. Finally, during Internalization, workers received intensive hands-on training on the unified procedures, successfully transforming the explicit knowledge back into ingrained personal skill and tacit experience. This application led to the standardization of innovation and a sustainable increase in productivity across all branches.

Conclusion

In conclusion, knowledge management models provide valuable frameworks for understanding how knowledge can be generated, transferred, and utilized within organizations. Each model contributes unique insights—ranging from the dynamic interaction of tacit and explicit knowledge to the measurement of intellectual capital. Together, they highlight that successful knowledge management requires not only systems and structures but also a supportive culture that encourages sharing, learning, and innovation.

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