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Make Tacit Knowledge Work for AI

What you need to learn to externalize human capital and tacit knowledge for use with AI.

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Introduction

Every organization wants to use AI for efficiency and innovation. Yet most forget one thing: **AI can't use what it can't see.**

The most valuable knowledge in any company is *tacit*, stored in people's heads, and therefore invisible to AI. To make AI effective, that knowledge must be **externalized** and transformed into a form AI can process.

This article explains how to do that. We'll connect classic theories of intellectual and knowledge capital with modern AI implementation frameworks and show how organizations can turn human capital into *AI capital*.

Intellectual Capital

An organization's **intellectual capital** is mostly invisible to outsiders but, together with physical and financial capital, is crucial for long-term competitiveness.

It can be divided into:

- **Human capital:** the personal expertise, skills, and often unconscious reasoning that drive initiative and creativity.
- **Structural capital:** what remains; documented processes, databases, policies, information systems, patents, and other intellectual property.

How large each share is depends on the organization, but for pedagogical reasons, let's say they are equal.

Ref. Leif Edvinsson (Intellectual Capital)

Explicit and Tacit Knowledge

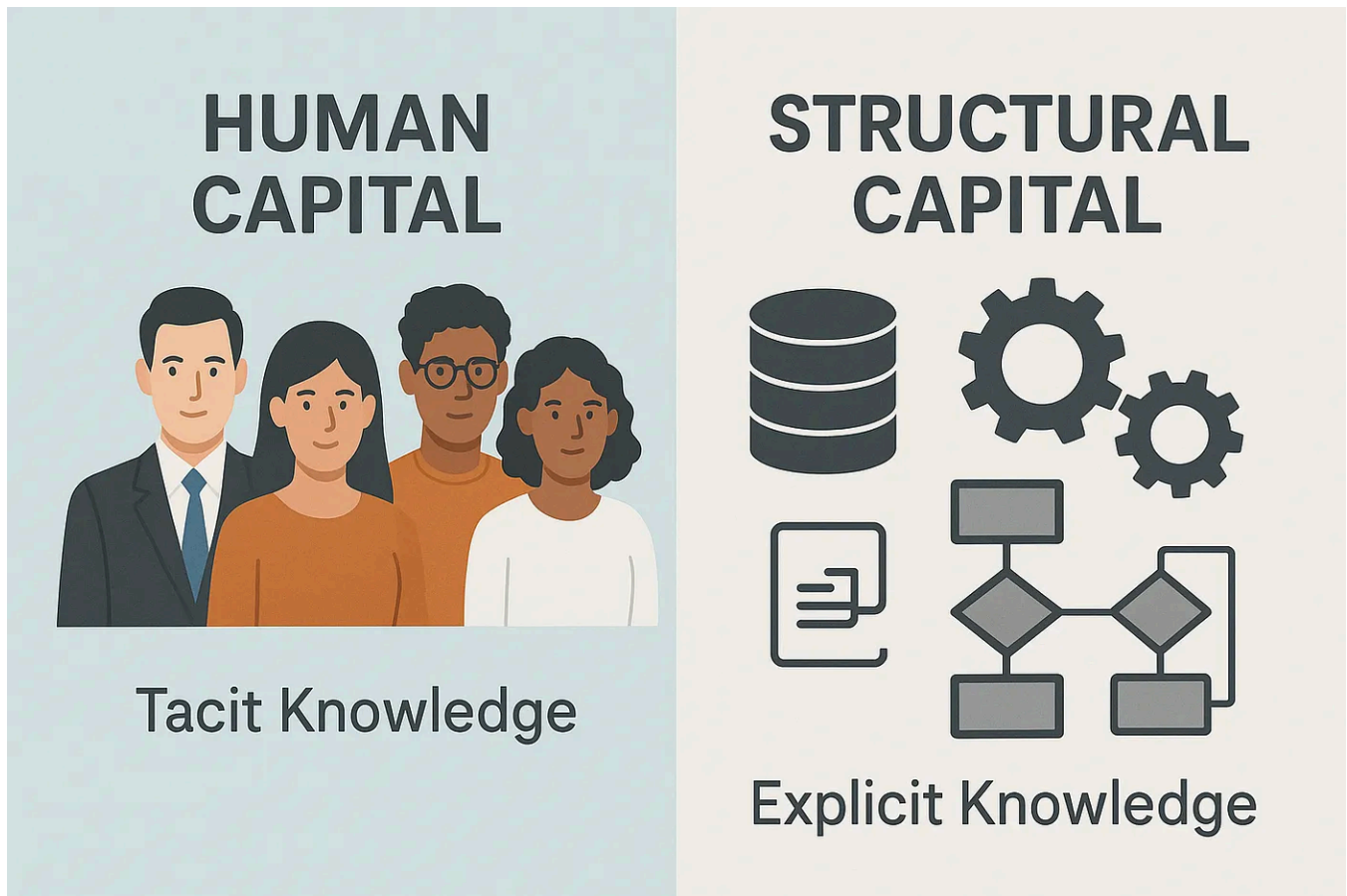
Knowledge exists in two forms:

- **Explicit knowledge** is codified, documented, and easy to share.
- **Tacit knowledge** is personal, contextual, and hard to articulate. It's the "know-how" you gain through experience. It can be mental models, intuition, heuristics, and silent judgments.

Explicit knowledge corresponds to structural capital. Tacit knowledge corresponds to human capital.

Ref. Nonaka & Takeuchi (SECI Model)

- Tacit knowledge moves between people through **socialization**, mentoring, observation, and shared practice.
- It becomes explicit through **externalization**, typically via modeling.
- Explicit knowledge transforms into other explicit knowledge through **combination**, typically through information system migration, often involving database integrations. This is also what AI does.
- And new tacit knowledge is formed through **internalization**, practical experience, and learning-by-doing.



Strategic goal fulfillment through operational performance

Most organizations pursue efficiency goals: higher productivity and lower costs through improved quality and internal/external efficiency.

Typical initiatives involve using resources more effectively, making better decisions, writing sound methodologies, and executing according to the manual.

The path to improving business processes usually goes hand in hand with introducing new information technology, such as AI, that supports them through the implementation of new information systems. This corresponds to the *combination* path in Nonaka's model, turning explicit knowledge into better-connected explicit knowledge.

AI's use of organizational knowledge

The Benefits of AI

AI will be implemented wherever possible because it's cheaper, faster, and more productive than alternatives. The goal is to automate business processes to enable both rationalization and development.

For a profit-driven organization such as a private company or corporation, the focus is on

- expanding markets and customer bases
- setting the correct prices
- enhancing product quality or value
- improving delivery precision
- shortening lead times
- cutting costs

And AI can support all of that.

But AI can only work with **explicit knowledge**, what it has been trained on or instructed with. Human capital is hard to replicate or replace directly.

To use AI effectively, we need to create **AI capital**, a subset of structural capital derived from human expertise.

The Five Levels of AI Knowledge Integration

Level 1 — Organization-agnostic AI

Today's LLMs and agentic AIs contain enormous amounts of general explicit knowledge. They help individuals but lack organization-specific information and the tacit insights that drive business advantage.

At this level, AI delivers only small, personal efficiency gains.

Level 2 — Organization-adapted AI

When AI services like Copilot, ChatGPT, or Gemini are connected to internal document databases, parts of the organization's structural knowledge become accessible.

This is a first step toward creating *AI capital*.

Still, the usage remains individual or team-based, not embedded in re-engineered business processes.

Level 3 — Organization-specific AI

Here, the organization fine-tunes models with its own data and develops its own prompts, skills, agentic workflow-chains, and MCP servers.

This level establishes a tangible *AI capital* that directly supports business goals through data-driven insight and automation.

Level 4 — AI Business-Process Automation

To achieve ambitious goals, we need AI Business Process Re-engineering (AI-BPR). AI must access all structural capital, integrate with operational systems, and support core processes. Some corporations have applied BPR since the 1990s; AI now supercharges it. With full integration, up to 80% of the process volume can be automated, leaving edge cases to skilled humans who apply tacit judgment. There are always rare domain scenarios, ambiguity, or complex real-world constraints requiring human intelligence.

Level 5 — Continuous externalization of Human Capital

To push automation further, human capital must be externalized into AI capital. That means transforming tacit knowledge into explicit, structured forms usable by AI.

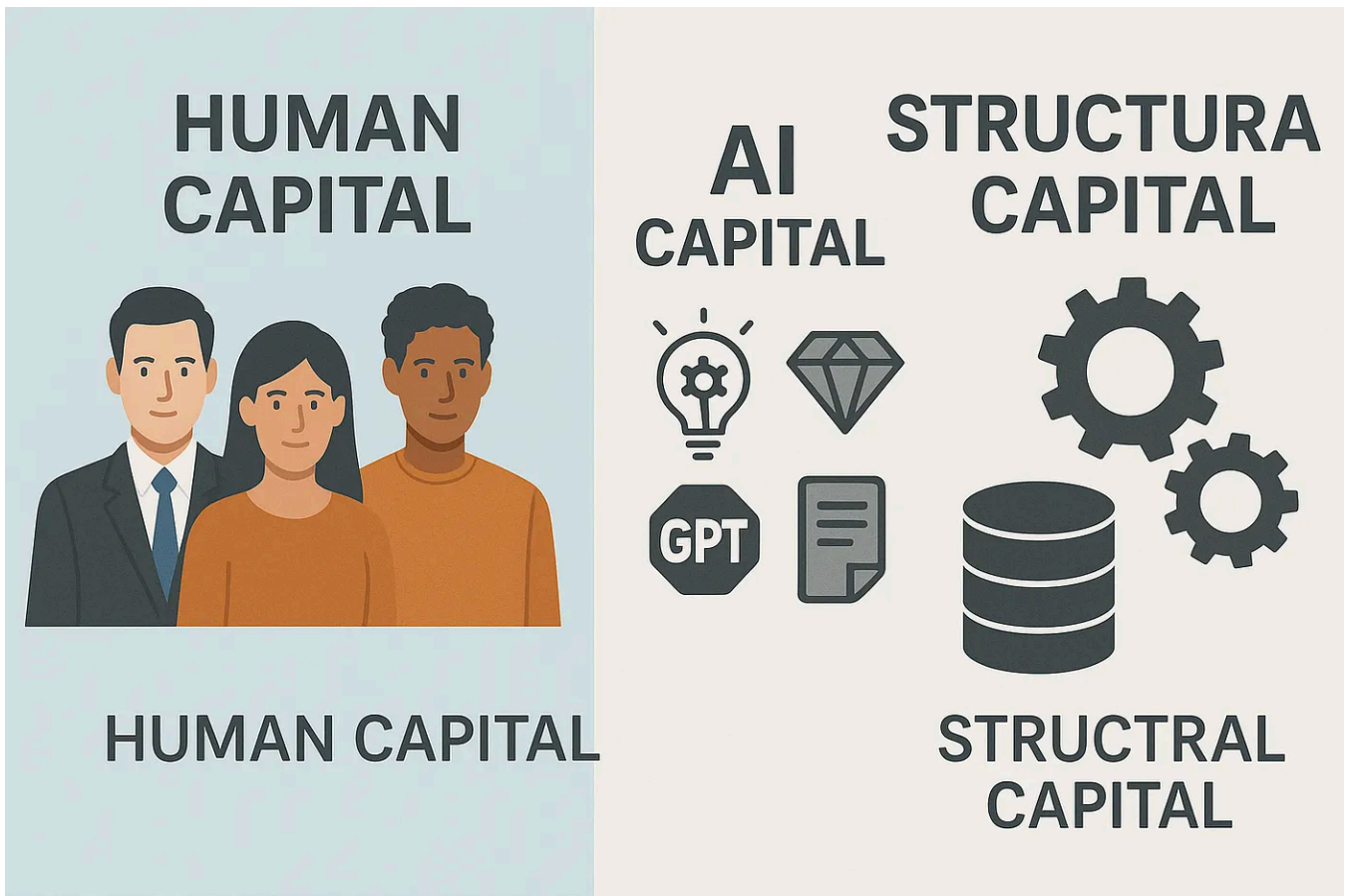
Only some tacit knowledge can be externalized; procedures, methods, routines, and rules can be modeled conceptually or algorithmically.

Emotional or ethical judgment, empathy, and intuition remain human strengths.

As long as processes involve human stakeholders, such as employees, customers, or partners, full automation is impossible.

Still, significant gains come from improving structural capital and continuously externalizing human knowledge into AI-ready models.

We have barely begun this journey. It's time to start.



How to Build the Capability

To externalize human capital and tacit knowledge for AI use, organizations must **build a structured capability**.

This includes:

1. **Facilitating workshops**, capturing tacit knowledge through co-creation modeling sessions in carefully selected groups.
2. **Business-process modeling**, build stakeholder, process, rule, goal, concept, and information models.
3. **Creation of AI artifacts**, translating models into prompts, skills, GPTs, and MCP servers.
4. **Integration**, connecting AI artifacts with operational systems.
5. **Continuous learning**, refining, and expanding your AI capital as people and processes evolve.

This approach lets you make key parts of your human capital available for AI-supported decision-making.

What You Should Learn

To master this discipline, develop competence in six areas:

1. Knowledge Management & Triangulation

Understand theories such as Nonaka's SECI model and Edvinsson's intellectual-capital framework to map and balance explicit and tacit knowledge.

2. Externalization Methods

Use facilitation, storytelling, observation, and interviews to extract tacit expertise.

3. Data & Knowledge Modeling

Learn ontologies, knowledge graphs, conceptual modeling, and rule engines to formalize knowledge.

4. AI & NLP Techniques

Grasp the basics of machine learning, prompt engineering, and AI integration into business systems.

5. Product Development

Design and build MVPs (Minimum Viable Products) or prototypes focusing on knowledge services.

6. Organizational Psychology

Understand human judgment, intuition, and decision-making to design AI that complements, not replaces, human intelligence.

This combination provides a strong foundation for capturing and turning tacit knowledge into lasting value in AI-driven organizations.

Conclusion & Next Steps

Externalizing tacit knowledge into AI capital is the next frontier of organizational intelligence. It's how companies will multiply the value of both their people and their AI investments.

This is the focus of my consultancy work: helping organizations capture, model, and operationalize human knowledge for AI use.

If you'd like to explore how, feel free to reach out.

Author Bio

Gunnar Östberg is a management and IT consultant with decades of experience in enterprise transformation. He writes about AI, process design, and organizational learning, bridging technology, business, and human capital.

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Digital Transformation

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