The Post-Knowledge Era

Changes in Education, Labor, and Social Structure

That Humanity Will Face: 2025-2045

Future Outlook Report (Draft)

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1. Introduction

High-performance AI systems that emerged after 2025 have begun to shake the foundations of the 'knowledge-centric society' that humanity built over the past several centuries.

This change occurs naturally, regardless of specific companies, models, or technologies — the moment AI tools replace or extend a significant portion of human knowledge, literacy, judgment, and creativity.

This report was written to answer the following question:

> *"In a world where knowledge can be obtained instantly, what should humans learn, what work should they do, and how should they live?"*

This is not merely 'technological advancement' — it is a structural change that simultaneously shakes a nation's education, labor, and social structures.

2. The Essence of Change: Knowledge is No Longer Scarce

2.1 Knowledge Held by AI

Current AI systems satisfy the following:

- Already possesses a significant portion of knowledge that human experts accumulated over decades
- Can immediately use documented procedures, manuals, theories, and cases
- Can perform knowledge-based work such as analysis, organization, interpretation, comparison, summarization, and planning

What this means is simple:

"The fact that you possess knowledge" no longer creates competitive advantage.

2.2 The Meaning of "Knowledge Becomes Trash"

This expression may sound provocative. But precise distinction is needed.

"Knowledge becomes trash" does not mean knowledge becomes worthless.

It means that the 'state of having memorized' knowledge no longer has value.

Knowledge is still important. However, 'utilizing' knowledge rather than 'possessing' it becomes what matters.

3. Reorganization of Expert Structure

3.1 Traditional Foundation of Expert Authority

Expert authority traditionally comes from three things:

- Amount of information and knowledge
- Case-based experience
- Judgment in exceptional situations

3.2 Areas AI Can Replace

However, AI:

- (1) Already surpasses humans in knowledge possession
- (2) Can replace experiential patterns through mass case learning
- (3) Can partially model exception handling through clear rule-making

3.3 Redefining the Expert Role

This doesn't mean "experts are unnecessary."

It means "expert power comes from cognitive architecture, not knowledge" — a redefinition.

The expert's role shifts from 'knowledge repository' to 'cognitive architect.'

Not those who memorized knowledge, but those who know how to make that knowledge work gain the upper hand.

4. The Boundary Between Junior and Senior Blurs

4.1 The Essence of the Existing Gap

The decisive difference between a 20-year expert and a 1-year newcomer was 'tacit knowledge (know-how)' and 'situational judgment.'

The senior's power came from three things:

- **Professional knowledge:** Information accumulated through long learning and experience
- **Judgment criteria:** Knowing how to judge in what situations
- **Exception handling experience:** Field know-how not in textbooks

These three things were the substance of '20 years of experience.'

4.2 What AI Provides

However, when AI systems provide:

- Case databases
- Standard procedures
- Warning rules
- Risk alerts
- Correction feedback

Newcomers can access the cognitive pathways of seniors.

4.3 The New Structure

- **"Knowledge-based jobs":** Newcomers can produce senior-level outputs
- **Only "cognition-based jobs"** become the new competitive advantage
- **60-70% of 20-year know-how** can be mechanically compiled and provided

This is already happening:

- Junior developers using AI writing senior-level code
- Entry-level lawyers with AI assistance writing experienced-level documents
- New writers collaborating with LLMs demonstrating veteran-level composition

The gap is being reorganized from 'years of experience' to 'AI utilization ability.'

5. The Changing Meaning of '20 Years of Know-How'

5.1 Brain-Based Jobs vs. Body-Based Jobs

Areas where know-how value is maintained versus areas where it disappears are divided.

Fields where know-how is absorbed by AI (Brain-based):

- Research, analysis, law, medical judgment, finance
- Business decisions, creation, planning, education

Fields where know-how remains valid (Body-based):

- Surgery, physical training, firefighting/rescue
- Manufacturing manual labor, athletes, chef's touch

Know-how learned by the body is difficult for AI to penetrate. However, know-how learned by the brain can be modeled and reproduced by AI.

5.2 The New Definition of 'Senior'

Traditional Senior:

> *Tacit knowledge accumulated over 20 years → Irreplaceable existence*

Future Senior:

> *Cognitive algorithm design + AI utilization ability → New advantage*

The value of experience is redefined from 'amount of accumulated information' to 'ability to structure information.'

6. The Greatest Risk Humanity Faces: Educational Mismatch

6.1 What Current Education Teaches

The current education system is based on:

- Knowledge transfer
- Finding correct answers
- Memorization-based testing
- Linear progression
- Evaluating achievement by 'accumulated amount'

6.2 What Future Society Demands

However, AI era demands are the opposite:

- Problem definition
- Cognitive structuring
- Tool utilization
- Non-linear thinking
- Imagination-based creation
- Interpretation, synthesis, strategy

6.3 The Structure of the Gap

Current education is structurally incomplete for preparing the 2030-2040 generation.

Because this gap is so large, parents, students, and teachers all "don't know what to prepare or how."

When current middle school students enter society (7-10 years later), AI will be far more powerful than now. However, they will be asked to solve 'next century's problems' with 'last century's tools.'

This gap is too large for individuals to overcome. The education system itself must change.

7. Labor Market Outlook (2025-2045)

7.1 Job Categories Where Skill Gap Narrows

The following job categories are easily replaced by AI-supported beginners due to their 'knowledge + procedure-based' work characteristics:

- Entry-level accounting/finance
- Administrative/clerical work
- Legal assistance
- Entry-level consulting
- Some teachers/instructors
- Research analysts
- Marketing/planning
- Programming (mid-level and below)

The key here is not 'extinction' but 'skill gap narrowing.'

7.2 Job Categories Becoming More Important

The following job categories are difficult for AI to replace and become more important because of AI:

- AI cognitive architecture designers
- Human-machine collaboration coordinators
- High-risk technical fields (medical, aviation, energy)
- Creators (high creativity)
- Social ethics/policy design
- Emotional/counseling fields
- Collaboration/leadership-based jobs

8. Abilities Needed by Future Humans

The knowledge-based era ends and the cognition-based era arrives.

Five core abilities for future humanity:

1. Problem Definition Ability

The power to create questions and set direction. The ability to make good questions, not find correct answers.

2. Cognitive Structuring Ability

The power to design judgment criteria and procedures. The ability to design in what order to arrange and operate knowledge.

3. Tool Utilization Ability (AI Literacy)

The skill to use AI not as a 'search box' but as an 'extended brain.'

4. Metacognition and Interpretation Ability

The ability to verify and interpret outputs from oneself and AI.

5. Imagination

The creativity to combine knowledge and create new paths. The ability to envision things that don't exist.

These five are uniquely human domains that AI cannot provide, and the areas that current schools are least prepared to teach.

9. Social Change Outlook for the Next 20 Years

9.1 Education Domain

- Increased youth anxiety: Possibility of losing future prospects
- Educational gap → Reorganized as AI utilization gap
- Parent generation unable to guide children's education using AI
- Education likely to be slowest to follow change

9.2 Labor Domain

- Collapse of existing professional authority structures
- Increased job mobility
- 'Multi-brain (human+AI)' utilizing groups achieve ultra-high productivity
- Widening productivity gap between AI-utilizing vs. non-utilizing groups

9.3 National Competitiveness

- National competitiveness will be determined by 'AI utilization education systems'
- Groups using AI as brain extension will monopolize research, planning, and creation
- Polarization of humanity's intellectual productivity

10. Conclusion

Humanity is moving from the 'knowledge-centric era' to the 'cognition-centric era.'

This change is a natural flow that begins from the moment the tool called AI destroys the scarcity of knowledge — regardless of whether specific technologies or systems are introduced.

Therefore, what future generations need to survive is not the ability to accumulate knowledge, but:

The power to create questions,

Design structures,

Utilize tools,

Interpret,

And imagine.

This is the core of the change humanity will face over the next 20 years.

The problem is that most people don't know this yet.

And the education system doesn't teach this.

This report is both a record of that gap and an observation of the direction of change.

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