

What Does the Research Say About Digital Problem Solving?

Five findings for leaders working across generations, technologies, and changing forms of expertise

The research does not support a simple digital-native story. Familiarity with technology is not the same as deep digital competence. At the same time, younger adults often demonstrate strong adaptive problem-solving proficiency, while employers increasingly need combinations of technological literacy, analytical thinking, creativity, adaptability, and human judgement. The leadership opportunity is to connect these capabilities rather than force one form of expertise to replace another.

1 Digital native does not mean digitally competent.

A large scoping review of 230 studies found that frequent technology use should not be assumed to produce critical information skills, privacy and security knowledge, self-regulation, or sophisticated digital judgement.

Source: Kreuder et al. (2024)

2 Adaptive problem solving is a meaningful workforce capability.

OECD Survey of Adult Skills data show younger adults performing strongly on adaptive problem solving across many participating countries. This is an age pattern, not proof that technology or generation alone caused it.

Source: OECD (2024)

3 Digital skill is multidimensional.

A validated workplace framework includes technology use, cybersecurity, content management, communication and collaboration, critical inquiry, responsibility, wellbeing, and identity and development.

Source: Audrin et al. (2024)

4 Leaders need digital competence too.

Leader digital competence is not about mastering every tool. It includes the ability and inclination to choose, promote, and enable appropriate use of digital media and technology among employees.

Source: op 1 Roodt et al. (2025)

5 The future of work requires hybrid capability.

Employers increasingly identify analytical thinking, technological literacy, creative thinking, adaptability, curiosity, leadership, social influence, and lifelong learning as important workforce capabilities.

Source: World Economic Forum (2025)

WHAT THIS MEANS FOR LEADERS

Do not confuse fluency with judgement.

Tool use can be fast and sophisticated while critical inquiry, responsibility, and contextual understanding still need development.

Transfer experience, not just procedures.

Make institutional history, consequences, relationships, and professional judgement visible to newer problem solvers.

Let processes be questioned.

Explain which constraints are essential and which are merely inherited habits.

Enable responsible experimentation.

Provide tools, boundaries, autonomy, feedback, and space to test without requiring every first attempt to be perfect.

Design intergenerational learning.

The strongest organization combines adaptive digital practices with context, experience, and human insight.

The question is not who has the better approach. It is how each makes the other better.

Experience + digital fluency.
Better judgement.
Better solutions.

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Experience Knows Why. Digital Fluency Asks Why Not.

The leadership work is to create the conditions where both forms of intelligence can contribute.

PRESERVE + TRANSFER

- Context: why this situation is different from another one.
- Pattern recognition: what experienced people have seen before.
- Relationships: who needs to be involved and why.
- Consequences: what a technically elegant answer may miss downstream.
- Professional judgement: when the rule does not fully fit the situation.
- History: why an existing process or policy was created in the first place.

INVITE + ENABLE

- Search: find information, examples, and alternative approaches quickly.
- Connection: draw on networks and distributed expertise.
- Experimentation: prototype and test before building the whole solution.
- Iteration: use feedback and revise quickly.
- Automation: remove low-value manual work where appropriate.
- Challenge: ask whether yesterday's method still serves today's purpose.

ONE USEFUL LEADERSHIP PRACTICE

Give the problem before the process. State the outcome and real constraints, then let people show how they would approach it. Only afterward add institutional history, judgement, and context. The differences reveal both what should be preserved and what may be ready to change.

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