STIVEN CATALYST

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MANAGEMENT REVIEW

Management without theatre.



AI

USING AI WITHOUT LOSING THE SKILL

Experienced endoscopists who found fewer adenomas on their own after working with AI, students who asked the chatbot for answers and felt fine, two ways a skill is lost, an aviation rule for flying by hand, and a card for the switch-off check.

−6.0 points in adenoma detection without AI by 19 experienced endoscopists, three months after AI arrived: from 28.4% to 22.4%.

BUDZYŃ ET AL., 2025

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NO. 86 · AI

In this issue

Most studies of AI at work measure what people do with the tool. Fewer measure what they can still do without it. That second question decides what happens on the day the tool is down, wrong or replaced, and it is the subject of this issue.

In four Polish clinics, experienced endoscopists found adenomas in 28.4% of colonoscopies without AI before it arrived, and in 22.4% three months after. In a Turkish school, most students with an open chatbot asked it for the answer, and did not feel they had learned less. A 2024 paper names two ways a skill is lost; a 1983 paper on automation and a 2013 aviation alert met it earlier. Five marks of a team that keeps its skill and a card close the issue.

Stiven Janaqi EDITOR · STIVEN CATALYST

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HOW TO READ THIS ISSUE

Figure
Every figure has its source and year at the foot of its page.

Our reading
Where the editor interprets rather than the research, it says so.

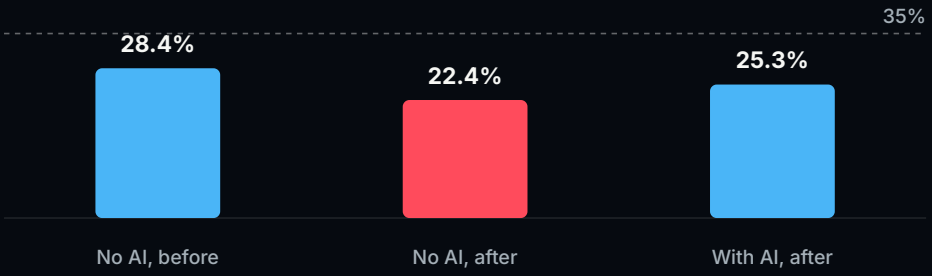
Practice
The steps and the card are proposals to try, not research results.

COVER STORY

Three months with the assistant

At the end of 2021, four endoscopy centres in Poland began using an AI system that marks possible polyps on the screen. Whether it was on depended on the date of the examination. Krzysztof Budzyń and colleagues looked at the days it was off.

COLONOSCOPIES WITH AT LEAST ONE ADENOMA FOUND, FOUR POLISH CENTRES, 2021–2022



The 19 endoscopists had each done more than 2,000 colonoscopies, with 27.6 years of experience on average. After the change their patients included more men and more were sedated, both of which usually raise detection. The authors suspect over-reliance: less motivated, less focused and less responsible when the AI is not there.

OUR READING

Against the same weeks without AI, the AI looked better. Against the team three months earlier, it did not. The yardstick had moved.

Source: Krzysztof Budzyń et al., The Lancet Gastroenterology & Hepatology 10, 2025

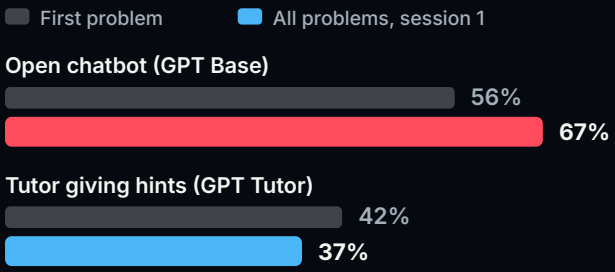
Observational study of 1,443 colonoscopies without AI and 734 with it. Poland paused its screening programme in 2022, so later patients came from another waiting list. The authors call for randomised trials.

THE NUMBERS

Asking for the answer

No. 51 gave the main result of a field experiment with nearly 1,000 students in Turkey: an open GPT-4 helped in practice and hurt in the exam without it. The full study also shows how the students used the chatbot, and what they thought it had done for them.

STUDENTS WHOSE FIRST MESSAGE ASKED FOR THE ANSWER OR REPEATED THE QUESTION



51%
of the open chatbot's answers to the practice problems were correct, asked ten times each

Students with the open version did worse in the exam but did not think they had learned less; those with the tutor thought they had done better, though they had not. The authors' reading: the open version was used as a crutch.

OUR READING

How people feel about a tool is not a measure of what they can do without it.

Source: Hamsa Bastani, Osbert Bastani, Alp Sungu, Haosen Ge, Özge Kabakcı & Rei Mariman, PNAS 122(26), 2025

Students, not employees: one school, mathematics, autumn 2023, GPT-4. The bars are shares of opening messages as the authors classified them. The 48%, 127% and 17% are in No. 51.

THE MODEL

Two ways to lose a skill

Brooke Macnamara and colleagues at Case Western Reserve University separate two risks of AI assistants, and a third that makes both worse: the person may not notice either of them.

Experts: the skill fades

A skill used less declines; thinking skills faster than physical ones

The work still gets done, so the loss stays hidden

It shows when the tool is wrong, down or out of its depth

Learners: the skill never forms

Performance rises fast with the tool

The skill behind it may not develop

It shows only when the tool is taken away

Automation bias, trusting a tool too far, goes away when the tool is switched off. A lost skill does not: it stays with the person. When the authors wrote, in 2024, they knew of no research on how AI assistants affect the user's skill.

OUR READING

A tool's errors leave with the tool. A lost skill stays with the team.

Source: Brooke N. Macnamara et al., Cognitive Research: Principles and Implications 9, 2024

A theoretical paper with examples from radiology and robotic surgery; the columns shorten its two sections. Automation bias and the human override are in Volume 3 of the operational treatise.

WHAT THE RESEARCH SAYS

Flying by hand

Industry and aviation met the problem first. In 1983 Lisanne Bainbridge of University College London wrote that physical skills deteriorate when they are not used, so a formerly experienced operator who has only been monitoring may now be an inexperienced one.

1983
Bainbridge: give operators hands-on control for a short time in each shift, or a simulator.

2013
FAA alert: more manual handling errors; airlines should let pilots fly by hand at low workload.

2024
Macnamara et al.: no study yet of AI assistants' effect on users' skill.

2025
Budzyń et al.: the first such result in medicine, in colonoscopy.

“The most successful automated systems, with rare need for manual intervention, … may need the greatest investment in human operator training.”

OUR READING

The better the tool, the rarer the practice, and the more it has to be planned.

Sources: Lisanne Bainbridge, Automatica 19(6), 1983; Federal Aviation Administration, 2013; Brooke N. Macnamara et al., Cognitive Research: Principles and Implications 9, 2024; Krzysztof Budzyń et al., The Lancet Gastroenterology & Hepatology 10, 2025

Bainbridge wrote about process plants and cockpits, not AI; the quotation is hers, shortened, and the translations are ours. The FAA alert is guidance to airlines, not a rule. Her ironies of monitoring are in Volume 3 of the treatise.

HOW IT IS MEASURED

Measure it with the tool off

The Polish study could see the loss because the AI was switched off on some days. Most teams have no such days, and notice what they can no longer do only when the system stops. Five marks of a team that keeps its skill:

01	**A planned stretch without the tool**	At low workload, as the FAA asks of airlines; not only when the system fails.
02	**The same measure, both ways**	Misses, errors or time with and without the tool, recorded apart.
03	**Learners try first**	New people work the case themselves; the tool hints or checks, as the tutor did in the school study.
04	**Ability tested, not felt**	A short task done alone, not a survey of confidence.
05	**A name for the fallback**	Who can do the work when the tool is down, and when they last did.

OUR READING

A team that never works without the tool cannot know what it would do if it had to.

Sources: Krzysztof Budzyń et al., The Lancet Gastroenterology & Hepatology 10, 2025; Hamsa Bastani, Osbert Bastani, Alp Sungu, Haosen Ge, Özge Kabakcı & Rei Mariman, PNAS 122(26), 2025; Federal Aviation Administration, 2013; Brooke N. Macnamara et al., Cognitive Research: Principles and Implications 9, 2024

The marks are the editors', drawn from Budzyń et al. (2025), Bastani et al. (2025), the FAA alert (2013) and Macnamara et al. (2024). None of them was tested as a set.

More in the essay The night the system went down

TOOL OF THE ISSUE

The switch-off card

One card for each task the tool now helps with, filled in with the team. The Skills Matrix shows who can do each task without help, where cover is thin and whom to train next.

01 The task what the tool does in it: suggests, checks, decides or writes

02 Without the tool who can still do it alone; when each of them last did

03 The measure one number to compare with and without the tool, recorded apart

04 The practice when, how often, at what workload; who is there to help

05 Learners what new people do alone before the tool helps them

06 Review what the last stretch without the tool showed; what changes; next date

Sources: Federal Aviation Administration, 2013; Lisanne Bainbridge, Automatica 19(6), 1983; Krzysztof Budzyń et al., The Lancet Gastroenterology & Hepatology 10, 2025; Hamsa Bastani, Osbert Bastani, Alp Sungu, Haosen Ge, Özge Kabakcı & Rei Mariman, PNAS 122(26), 2025

The card is the editors' proposal, built on the FAA alert (2013), Bainbridge (1983) and the designs of the studies by Budzyń et al. and Bastani et al. (2025).

Open the tool: Skills Matrix stivencatalyst.com/tools/skills-matrix/

SOURCES AND METHOD

Every figure has a source.

The figures in this issue come from the sources below. The year shows how recent each one is.

Endoscopist deskilling risk after exposure to artificial intelligence in colonoscopy: a multicentre, observational study
Krzysztof Budzyń et al., The Lancet Gastroenterology & Hepatology 10, 2025
https://doi.org/10.1016/S2468-1253(25)00133-5

Generative AI without guardrails can harm learning: Evidence from high school mathematics
Hamsa Bastani, Osbert Bastani, Alp Sungu, Haosen Ge, Özge Kabakcı & Rei Mariman, PNAS 122(26), 2025
https://doi.org/10.1073/pnas.2422633122

Does using artificial intelligence assistance accelerate skill decay and hinder skill development without performers' awareness?
Brooke N. Macnamara et al., Cognitive Research: Principles and Implications 9, 2024
https://doi.org/10.1186/s41235-024-00572-8

Ironies of Automation
Lisanne Bainbridge, Automatica 19(6), 1983
https://doi.org/10.1016/0005-1098(83)90046-8

Safety Alert for Operators 13002: Manual Flight Operations
Federal Aviation Administration, 2013
https://www.faa.gov/sites/faa.gov/files/other_visit/aviation_industry/airline_operators/airline_safety/SAFO13002.pdf

EDITORIAL METHOD

Each figure was checked for its year, its publisher and what it measures, in the full text where it could be opened. A source read only in a summary, an abstract or excerpts is marked “via”. A figure not confirmed in what was read is marked so on its page, or left out. The editor's interpretation is marked “Our reading”.



MANAGEMENT REVIEW

Management without theatre.

Every issue, one management question, checked against the best research.

ALL ISSUES

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Edited by Stiven Janaqi, who answers for it; “the editors” in this publication means him. Its texts, translations, layout and the checking of figures against their sources are done in working sessions with Claude, an AI model by Anthropic.
stivencatalyst.com/how-this-is-made.html