



From Overload to Insight:

Personal Knowledge Management for Clinical Data Scientists in the Age of Generative AI

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Agenda

1. Introduction and Use Case PKM
2. Building a second brain
3. Managing Knowledge
4. Accelerating Knowledge Management with GenAI
5. Use cases for Clinical Data Scientists
6. Conclusion





Information is not insight; we need to manage the way we process and learn from information

1. Introduction and Use Case Personal Knowledge Management (PKM)



Golden age of information access leads to cognitive overload.

Forgetting Curve

Within 1 hour of learning new information, we forget 50% of it.

Within 24 hours, we forget 70%. By the end of the week, only 25% retain.

Google Effect

There is a growing tendency to forget information that can be looked up online.

We need a new approach and actively manage our knowledge:

Enter the world of PKM!

Continuous learning comes with continuous forgetting.

In an age of endless and continuous learning, only what you manage becomes knowledge.



PKM is the art and science to **capture, organize, and retrieve information** to generate insight when it matter most.

1. Introduction and Use Case Personal Knowledge Management (PKM)

PKM is not new, but just newly urgent



Explore how clinical data scientists can build their own second brain and how generative AI can become a powerful co-pilot in that journey.

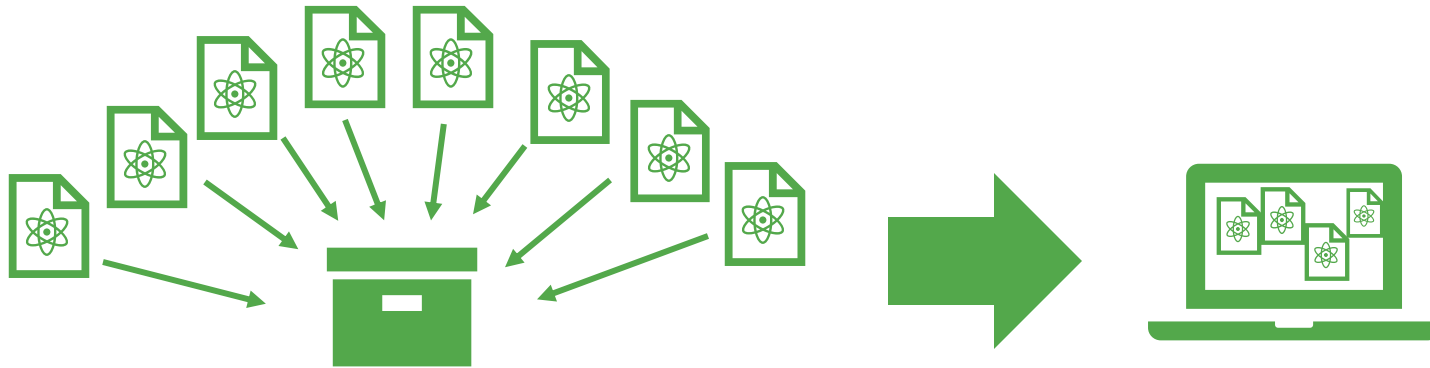
Disclaimer

- // PKM is often described as the art of capturing and organizing information, my deeper aspiration is **self-cultivation**.
- // English lacks a truly adequate word for this concept hence I using “*Knowledge*”
- // German provides *Bildung*, which captures the idea:
***Bildung* is what remains, after everything you’ve learned is forgotten**
- // *Bildung* weaves transferable learning with moral and emotional maturity, uniting qualities of a collaborative team player with the autonomy of an independent thinker



Building a second brain using a digital note taking app with linked atomic notes is the core of PKM

2. Building a second brain



20th century Niklas Luhmann established **Zettelkasten** method

// Physical card box with captured **atomic notes**

// **Linking notes** leads to a growing web of thoughts

// Luhmann wrote 70 books and over 400 articles

Today's Zettelkasten

Build your second brain with **digital notetaking apps** like Obsidian, Evernote, Notion, etc.

The true value of a second brain is not storage.

It is synthesis!



It helps to **know your note-taking type** to find the best digital note-taking app

2. Building a second brain

The Librarian

// Collect material from diverse sources, curate it and store it in consistent categories.

// **Evernote** and **OneNote**

The Gardener

// Cultivate many ideas, enjoy wandering through notes.

// **Obsidian** and **Roam Research**

The Architect

// Clear hierarchy, careful designed system.

// **Notion** or **Craft**

(The Student)



Deconstructing the knowledge creation process leads to a structured and scalable process, which can be accelerated using GenAI

3. Managing knowledge

C.O.D.E.

a method to manage knowledge daily

Capture - *Save what resonates*

Organize - *Make it findable*

Distill - *Extract the essence*

Express - *Share to sharpen your thinking*

*Method introduced by **Tiago Forte** in "Building a second brain"*

*Not meant to collect facts or building digital archive.
Cultivate a lifelong process of taking notes.*

Deconstruct Knowledge Creation

to make knowledge creation scalable and accelerate

Research – *seek out information*

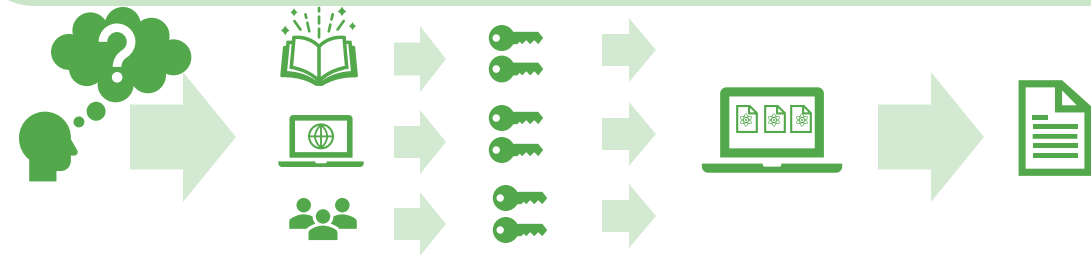
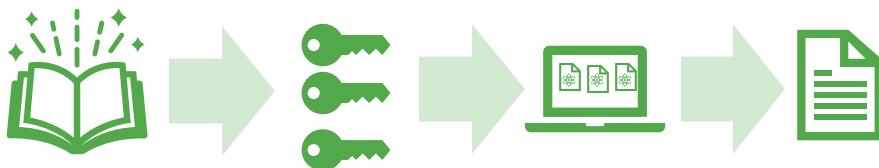
Capture – *Save what's relevant and what resonates*

Expand – *make connections and add perspective*

Express – *turn it into something useful*

This process can be accelerated dramatically with generative AI!

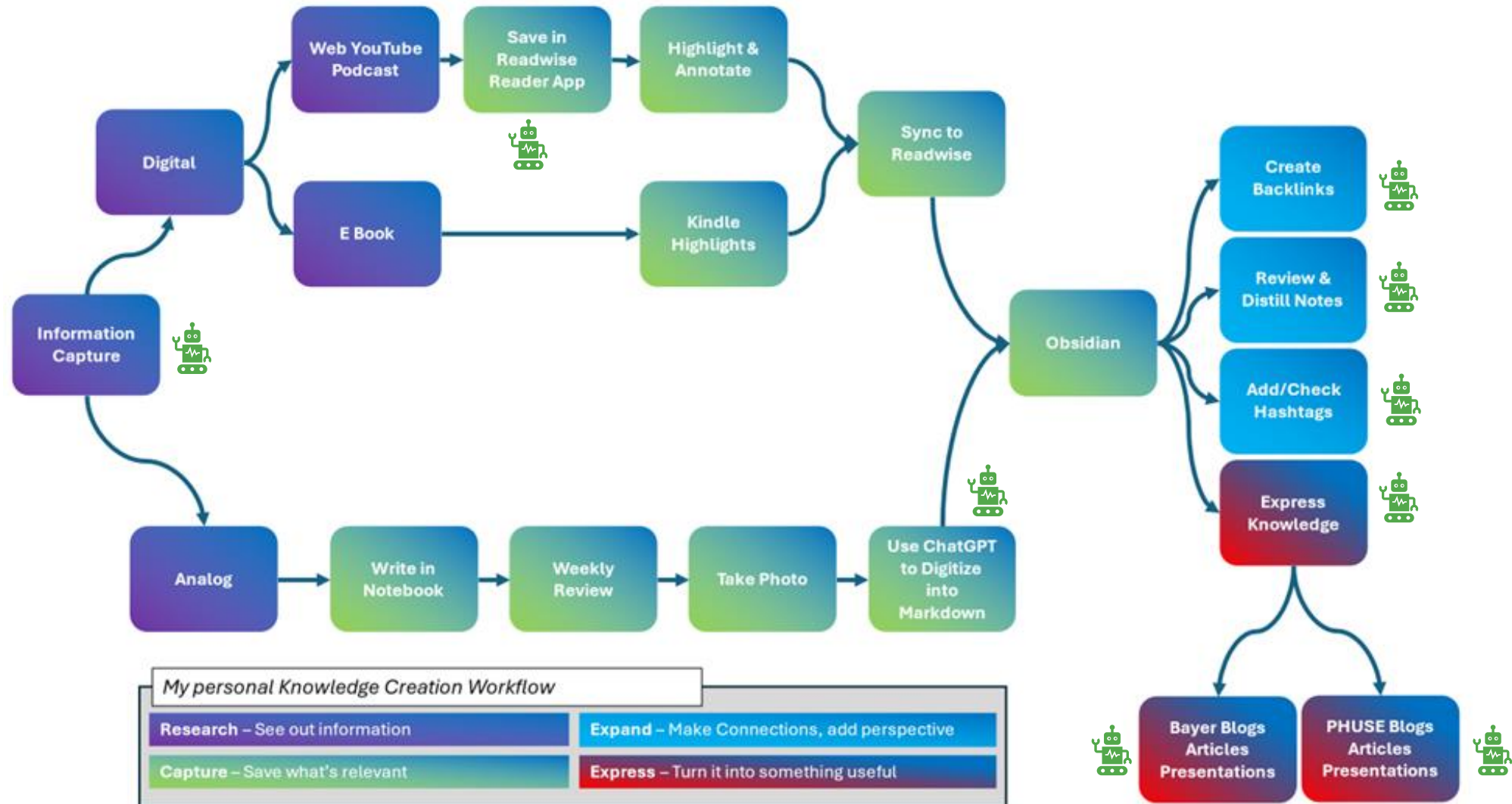
Example





I've optimized my personal knowledge management process using various digital tools and express it regularly

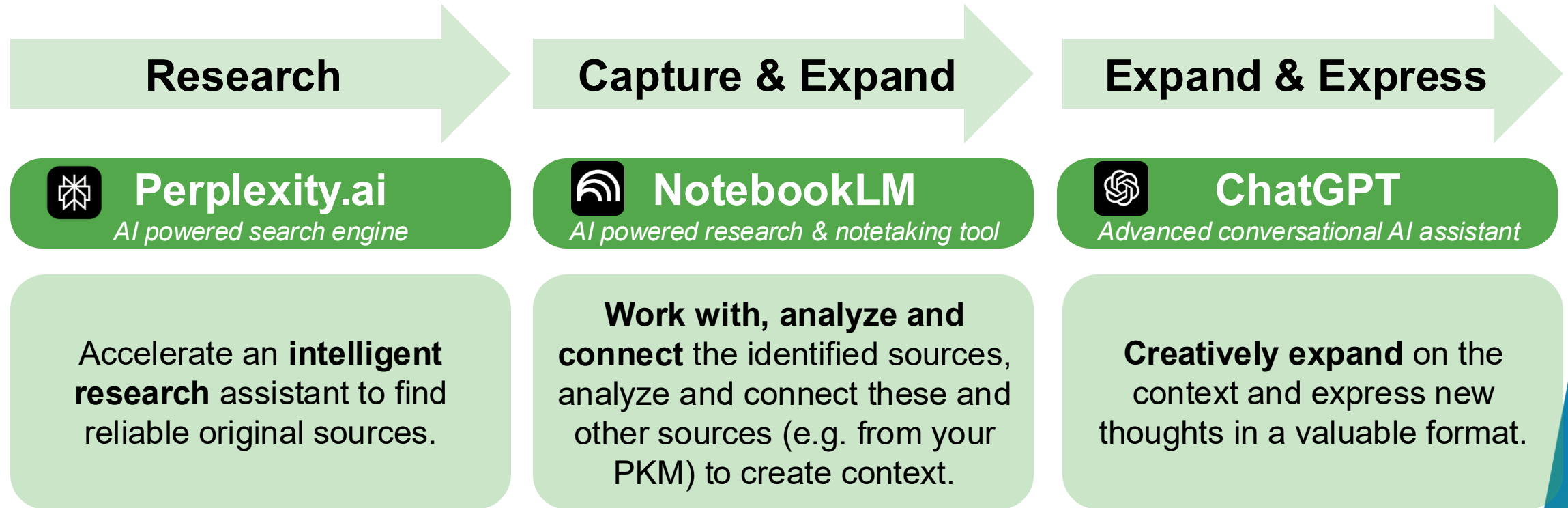
4. Accelerate knowledge management with GenAI





You can **accelerate** the knowledge creation process **by working with specialized AI tools**

4. Accelerate knowledge management with GenAI



Example

“Conduct a deep search on organizational structures in agile software organizations.”



“Identify patterns in these sources on building agile organizations.”

“By using this context, write a position paper about a new setup for the statistical programming organization at Bayer.”





Imagine you would have started your PKM journey when you started your career!

5. Use cases for Clinical Data Scientists

Junior Programmer

Everything is new!

In the beginning, take a student approach and **take as many notes** as possible:

- *Process landscape*
- *Technology used*
- *Who I like to work with*
- *Key learnings from my onboarding*
- *That's how drug development works*

 Connect your learnings to get the big picture over time.

Matured Data Scientist

Manage network

Keep PKM up to date.

Distill learnings from trials.

Lessons from submissions.

Notes on your personal network (partner, peers, stakeholder)

 Focus on expanding your personal experience.

Seasoned Leader

Improve decisions

Keep PKM up to date.

Notes on your decision making process

- *Topic and facts*
- *Options*
- *Mood, weather, daytime*
- *Rationale and outcome*

 Reduce the likelihood of bad decisions

Knowledge is like love – the more you share it, the more it grows.



Conclusion & Key Takeaways

1

Forgetting curve shows how fast we lose what we learn.
Google effect shows how much we rely on external memory
Together, they warn: **What is not managed, is lost.**

2

With a second brain – and a smart AI co-pilot, **we can transform information into insight**, and insight into impact.

3

PKM combined with AI as an accelerator can help us cultivating a **lifelong process of forming wisdom** and character.



Health for all, Hunger for none



Thank
you!