

# Pt 3: AI Due Diligence - Step 1

Do You REALLY Need AI  
for This Problem?

Part 3 of 7: Learning from Prudent  
Innovators

# Recap: The Data Dimension

## AI Adds a Critical Layer to Agile Focus (See Part 2)

- ⚙️ Agile needs to evolve to fully embrace Data lifecycle considerations for AI.
- ⚙️ But before deep diving into AI complexities, a fundamental question...

# The First Question: Necessity of AI

Often Overlooked in the Rush  
of Hype

⚙️ AI front-runners don't apply AI to every problem.

⚙️ The most crucial due diligence question: **Does this problem ACTUALLY require AI?**

⚙️ Or is FOMO (Fear Of Missing Out) driving decisions?

# The Allure of the Hype Cycle

AI is at its Peak - Temptation to Showcase is High

⚙️ It's tempting to want to use the latest, shiniest AI tech.

⚙️ But are we **over-engineering solutions** that could be simpler, faster, and cheaper?

# My Early AI Experience (2007)

## Justified by Specific, Complex Needs

⚙️ I developed my first Artificial Neural Network app back in 2007.

⚙️ It was for a very **specific, complex pattern-recognition problem** where it was justified.

⚙️ Today, the pressure to "use AI" everywhere is immense, regardless of fit.

# The Risk of Over-Engineering with AI

## Jumping to Deep Learning Prematurely

- ⚙ Too often, teams jump to complex deep learning models.
- ⚙ Proposing training on hundreds/thousands of expensive GPUs.
- ⚙ Sometimes even **retraining already pre-trained models** - a wasteful practice.

# Insights from Leaders & Colleagues

## Prudence in AI Application

- ⚙️ Thoughts with insightful leaders confirm:
- ⚙️ AI isn't a magic bullet for every problem.
- ⚙️ Blindly retraining pre-trained models should usually be avoided.
- ⚙️ Favor more efficient techniques like **fine-tuning or RAG.**

# The KISS Principle for AI



Keep It Simple, (Strategically)!

A Thought Process:

- ⚙️ 1 Simple Math / Logic First.
- ⚙️ 2 Basic Statistics.
- ⚙️ 3 Advanced Statistics.
- ⚙️ 4 Machine Learning (simpler models).
- ⚙️ 5 **THEN ONLY CONSIDER:** Deep Learning / GenAI.



# Prioritize Efficient GenAI Use

APIs > Fine-tuning > RAG > Train from Scratch

⚙️ When using GenAI, the hierarchy of efficiency is often:

⚙️ Start with existing **models**.

⚙️ Consider **fine-tuning** for domain.

⚙️ Explore **Retrieval-Augmented Generation (RAG)**.

⚙️ Training LLM from scratch is costly.

# Rigorous Problem Analysis FIRST

## Don't Let the Solution Define the Problem

- ⚙️ Thoroughly analyze the problem you're trying to solve.
- ⚙️ A more complex AI solution isn't inherently better.
- ⚙️ Often, a simpler, non-AI, or less complex AI approach is optimal.

# The Cost of Unnecessary AI Complexity

Time, Money, Resources,  
Opportunity Cost

⚙️ Choosing complex AI solution when a simpler one would do leads to:

⚙️ Increased development time, higher infrastructure costs, need for specialized talent.

⚙️ And diverts resources from other valuable initiatives.

# Strategic Questions Before AI Adoption

## The Cost & Strategy Conundrum

⚙️ This initial due diligence on "Do we NEED AI?" is foundational.

⚙️ **Next Up (Part 4):** Cost & Strategy Conundrum - Lessons from DeepSeek & Strategic Leaders.

⚙️ Stay tuned!

≡ Series: Beyond Hype (Part 3 of 7) ≡

# AI Due Diligence Step 1: Do You Really Need AI?

Part 1: The Twin Revolutions

**Access Part 1 PDF**

Part 2: The Agile Blind Spot for AI

**Access Part 2 PDF**

**Part 3: Do You Really Need AI? Due Diligence**

**Access Part 3 PDF**

Part 4: Cost & Strategy - Lessons from Leaders

**Access Part 4 PDF**

Part 5: Structured AI Adoption - Phase 1 & 2

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Part 6: Structured AI Adoption - Phase 3 & 4

**Access Part 6 PDF**

Part 7: Expected Outcomes & Conclusion

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Examples from Microsoft, Bosch, OpenAI, DeepSeek.

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