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WELCOME!

Innovation begins with an idea. Scale begins with a system.

AGENDA

1

THE QUESTIONS

The two questions that we will answer based on the “LLM-Orchestrated”.

2

THE SCALING EQUATION

The main pillars of scaling and how they interact.

3

THE PROPOSED SOLUTION

The LLM-orchestrated simulation and VR co-creation model.

4

COMPARISON

Comparing the traditional with the LLM-orchestrated pathways.

5

TECHS THAT MATTER THE MOST

Where to start and how?

6

CONCLUSION

Main takeaways and highlights.

TWO QUESTIONS TO ANSWER

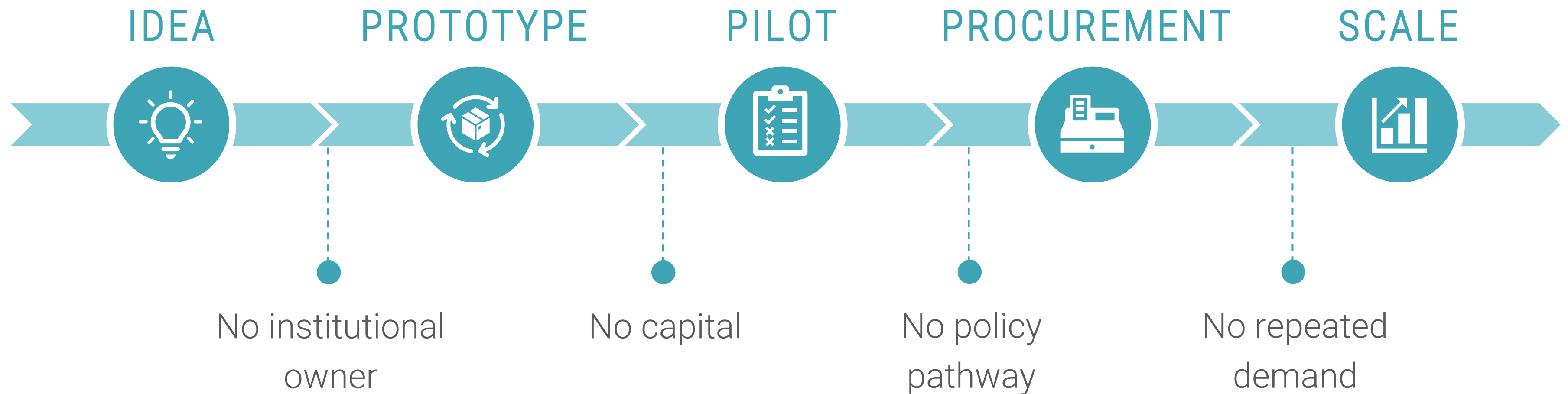
Q1. What turns a promising idea into a scaled solution?

Understand the factors that lead to scale failure and dissect them along the business pathway. Later, explain how the scaling equation/ formula works.

Q2. Which technologies matter most?

Judge each by the development job it performs - and the conditions required to use it inclusively.

WHY YOUTH-INNOVATIONS FAIL



THE SCALING EQUATION



PROTOTYPE

Technical proof of the product.



TRUST

Community buy-in, transparent evidence, and local ownership.



FINANCE

Investable packet, blended capital and risk clarity.



POLICY

Regulatory fit, adoption enhancement, and institutional anchor.

THE PROPOSED SOLUTION

The LLM-Orchestrated simulation, assisted with VR and digital twin co-creation, gives youth innovations a credible pathway from imagination to implementation.



TRADITIONAL PATHWAY

Step	Process Box Label	Estimated Time	Estimated Direct Cost
1	Identify Problem + Idea Definition	2-4 weeks	USD 500-2,000
2	Manual Desk Research + Stakeholder Interviews	6-10 weeks	USD 3,000-10,000
3	Build Initial Prototype / MVP	8-16 weeks	USD 8,000-35,000
4	Small Pilot with Users	8-12 weeks	USD 10,000-40,000
5	Manual Impact + Market Evaluation	6-10 weeks	USD 5,000-20,000
6	Business Model + Financial Plan	4-8 weeks	USD 3,000-15,000
7	Fundraising / Grant / Procurement Readiness	12-24 weeks	USD 5,000-25,000
8	Scale Preparation	8-16 weeks	USD 10,000-40,000

Summary

- Time: 14-26 months
- Direct Cost: USD 44,500-187,000
- Main weakness: Learning happens late, after money has already been spent on prototypes and pilots. Less innovation, more traditional thinking, and greater reliance on humans and the possibility of burnout.

LLM ORCH. + HUMAN VAL. PATHWAY

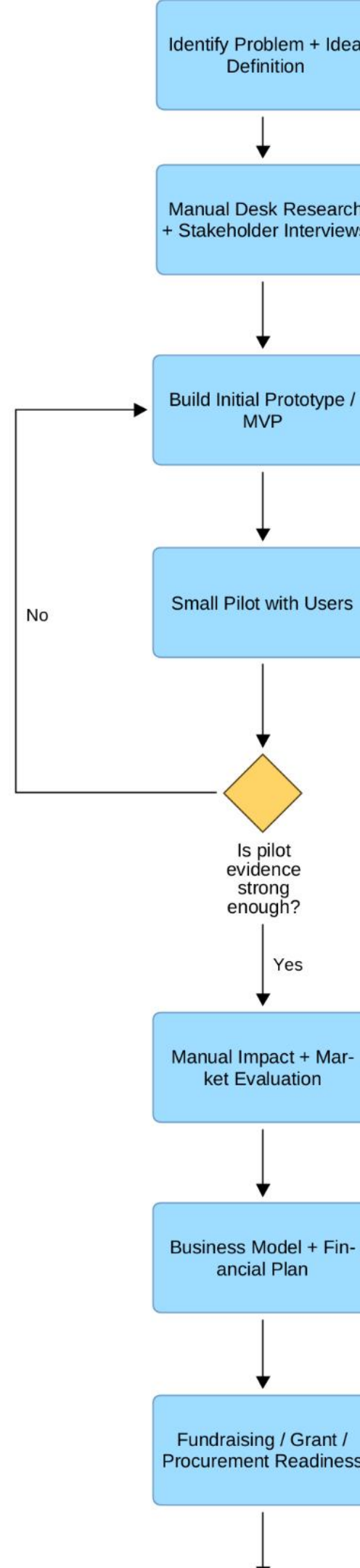
Step	Process Box Label	Estimated Time	Estimated Direct Cost
1	Problem Intake + Local Data Pack	1-2 weeks	USD 500-2,000
2	LLM Evidence Scan + Scenario Mapping	1-2 weeks	USD 500-3,000
3	Simulated Users, Risks, Costs + Scale Pathways	2-3 weeks	USD 1,000-5,000
4	Rapid Prototype / Low-Code MVP	3-6 weeks	USD 3,000-15,000
5	Human Expert Review	2-4 weeks	USD 2,000-8,000
6	Physical Validation / Micro-Pilot with Real Users	4-8 weeks	USD 7,000-25,000
7	Scale Readiness Scorecard	2-4 weeks	USD 2,000-8,000
8	Investor / Procurement	4-8 weeks	USD 3,000-12,000

Summary

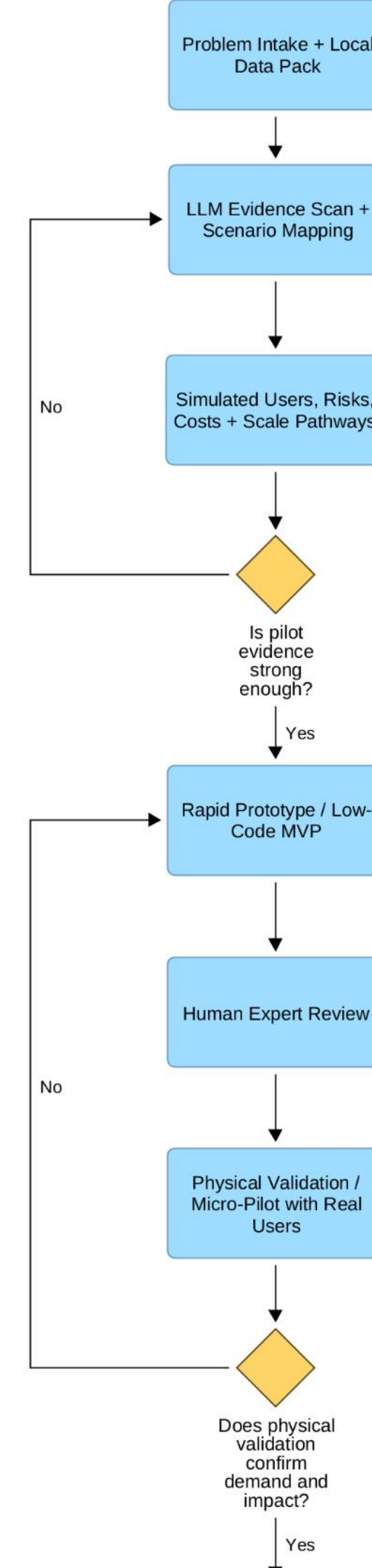
- Time: 5-9 months
- Direct Cost: USD 9,000-78,000
- Main advantage: Cheaper simulated learning happens before expensive physical testing
- Main weakness: May require entrepreneurs with more tech and simulation/ VR capabilities.



TRADITIONAL PATHWAY



LLM ORCHESTRATED + HUMAN VALIDATION PATHWAY



SIMULATION RESULTS

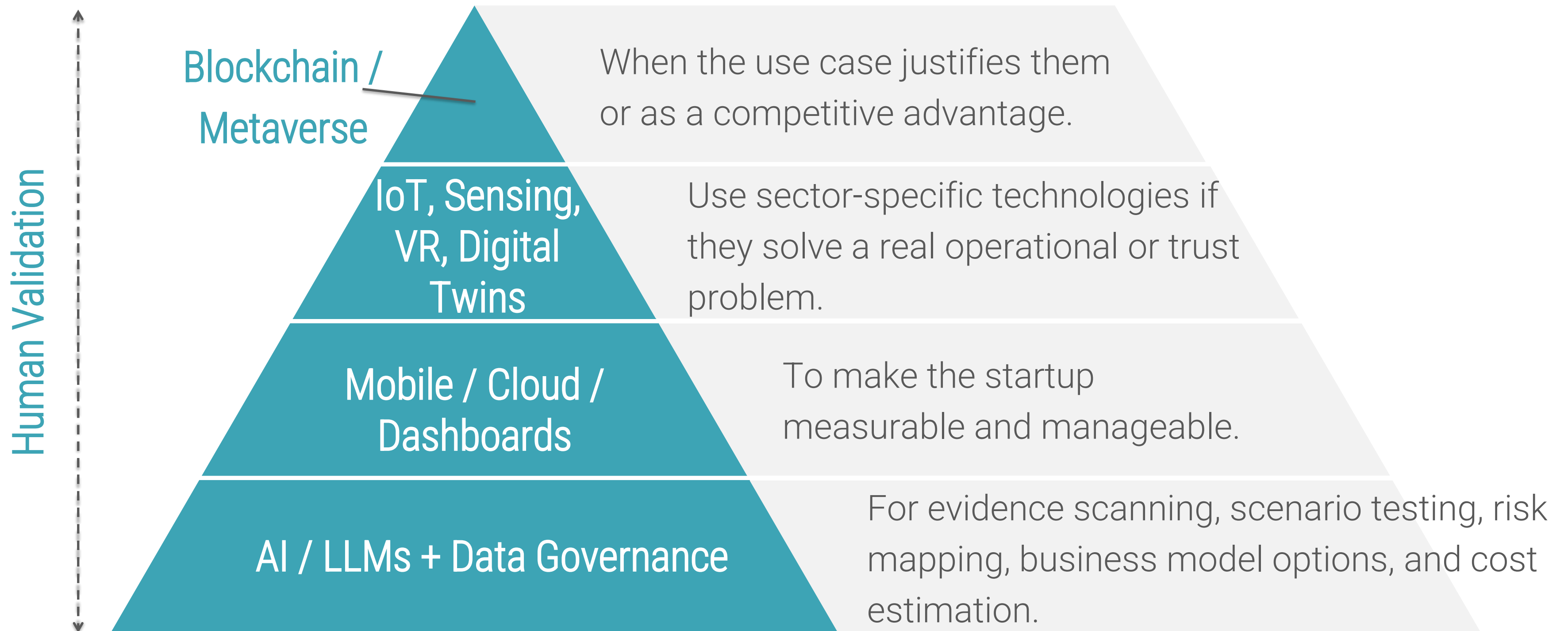
	TRADITIONAL	LLM ORCH. + HUMAN VALID.	DIFFERENCE
Average time (Direct)	118 weeks / 27.6 months	28 weeks / 6.5 months	90 weeks (76%)
Average cost (Direct)	USD 115,750	USD 48,500	USD 67,250 (58%)
First feasibility check	After pilot, Step 4	Before prototype, Step 3	-
Human validation	Step 4	Step 5 and Step 6	-
\$ of 1 st rework loop	Avg. USD 23,000	Avg. USD 2,375	USD 20,625 (90%)
Main efficiency gain	None; learning is late	Early simulated learning before expensive validation	-

The LLM-orchestrated pathway reduces the average time by about 76% and the average direct cost by about 58%, while still maintaining human review and physical validation before scale.

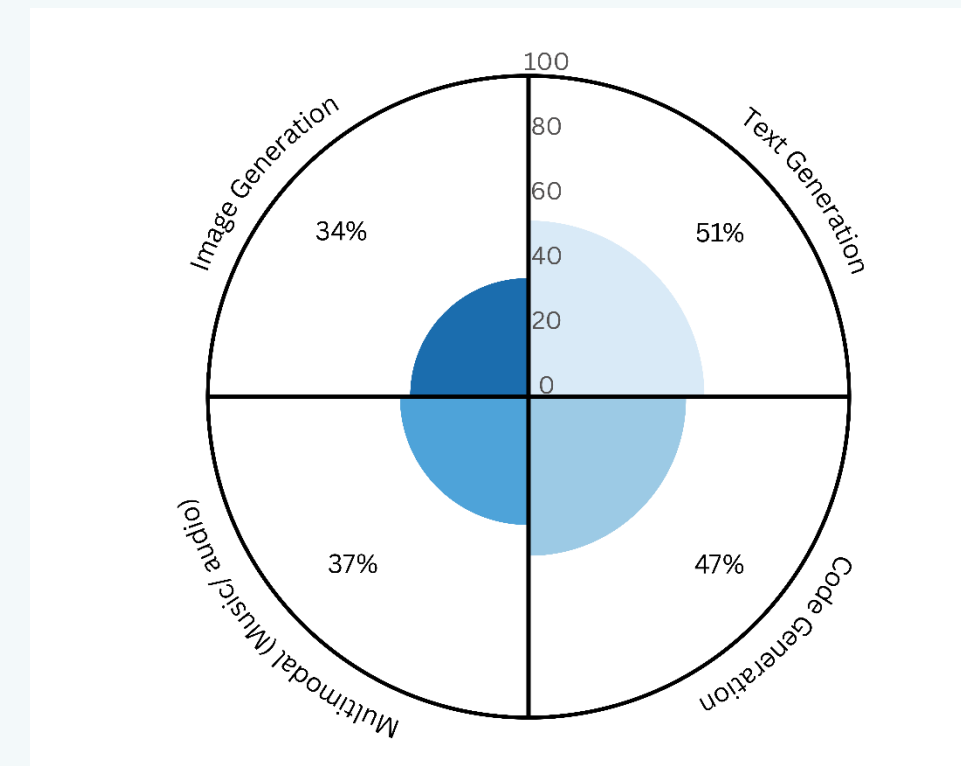
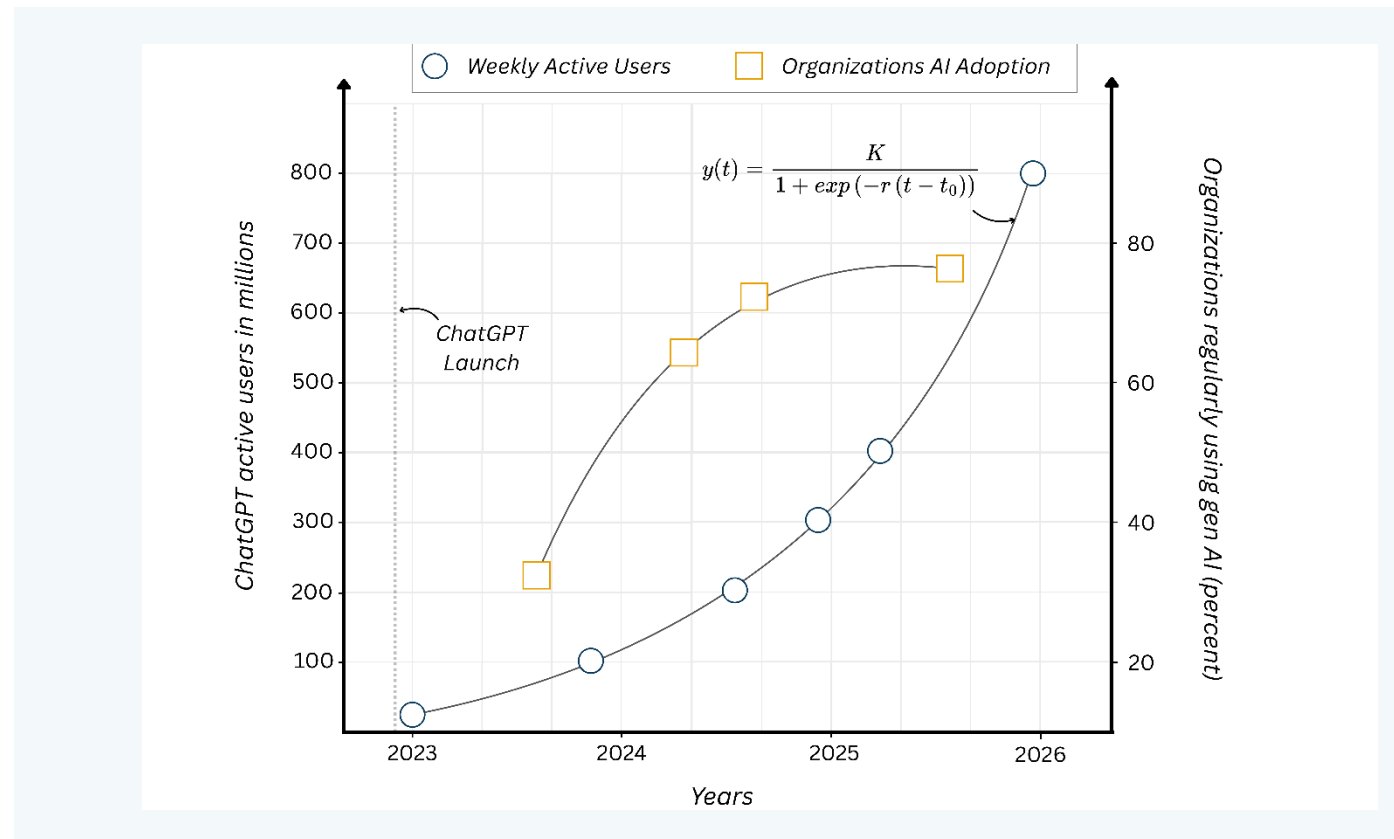
Q2 WHICH TECH MATTERS THE MOST

- There is no single “best” technology for every youth startup.
- The right technology depends on the project’s nature, users, data, regulation, infrastructure, and trust requirements.
- For most youth-led sustainable-development startups, AI/LLMs are the best first layer because they reduce uncertainty, accelerate learning, and create a competitive advantage before major capital is spent.

TECHNOLOGY LADDER / PYRAMID



THE WINDOW IS OPEN



AI MOMENTUM

McKinsey reports that 78% of organizations used AI in at least one business function in 2025, up from 55% one year earlier. GenAI use also reached 71% of organizations, up from 65% in early 2024.

USE CASES

AI is already creating practical outputs. A low-cost simulation layer (such as the proposed LLM-orchestrated simulation) can help in learning, designing, validating, and scaling.

REFERENCES



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THANK YOU!

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