Center for Sustainable Development at BROOKINGS

JUNE 2025

WORKING PAPER #193

VIBE TEAMING: HOW HUMAN-HUMAN-AI COLLABORATION COULD DISRUPT KNOWLEDGE WORK FOR THE WORLD'S TOUGHEST CHALLENGES

JACOB TAYLOR AND KERSHLIN KRISHNA

Vibe teaming: How human-human-AI collaboration could disrupt knowledge work for the world's toughest challenges

Jacob Taylor and Kershlin Krishna

JUNE 2025
Working Paper 193

About the Center for Sustainable Development

The Center for Sustainable Development (CSD) generates cutting-edge research and empowers collaborative action to tackle the world's interwoven economic, social, and environmental challenges in all societies and at all scales.

Acknowledgment

The authors thank John McArthur and Homi Kharas for comments on an earlier draft.

Disclosure

Portions of this working paper were informed by the use of ChatGPT, a generative AI tool developed by OpenAI. The AI tool was used in April 2025, in accordance with the proposed method of vibe teaming, to assist to synthesise expert analysis and draft initial outputs. All final content was reviewed for factual accuracy and revised by the author(s) prior to publication.

Executive summary

Generative artificial intelligence (AI) will have profound implications for the future of work and knowledge production. But how best to deploy emerging tools within organizations and teams in ways that promote human agency, collective intelligence, and societal impact remains an open question. In this working paper, we propose "vibe teaming," a model of human-human-AI teaming that leverages AI tools to enhance human-to-human collaboration and support team collective intelligence with efficiency and speed commonly associated with AI's impact on individual work. By integrating AI tools into team workflows from the outset (to record and transcribe team conversations and draft and develop knowledge products), vibe teaming could help teams reallocate time and attention to higher-value work of collaborative exploration, synthesis, and problem-solving. We demonstrate how vibe teaming facilitated a high-quality strategy brief for achieving Sustainable Development Goal (SDG) 1.1 on ending extreme poverty globally and a draft Brookings-style commentary, suggesting its potential as a viable method for supporting knowledge work for the world's toughest challenges.

1. Introduction

Generative AI's transformation of knowledge work is underway, but it remains unclear what ways of working with AI will support tangible value creation, and who will ultimately benefit. Signs of the technology's potential disruption of jobs and work[1] are beginning to emerge as some organizations race to integrate AI into everything from software coding to marketing pitches and research.[2] Meanwhile, in institutions slow to implement comprehensive AI policies,[3] frontline employees and teams have become unexpected pioneers of innovation, using off-the-shelf tools to run rapid, informal experiments.[4] These changes are unfolding in a broader environment where ineffective team communication and poor knowledge management already hinder work speed and quality—and where, according to one recent survey study, a majority of senior executives admit they are not completely sure about how best to guide their teams to use AI effectively.[5]

In this uncertain landscape, deliberate attention to the design of AI systems and products is essential to ensure that innovation promotes—rather than undermines—human flourishing and societal value creation.[6] This imperative calls for collaboration among technologists, researchers, and policymakers to surface, test, and scale approaches to human-AI interaction that foreground human agency and collective intelligence while advancing broad societal impact.

A core question in this domain is how AI technologies can enhance human-to-human collaboration within teams. As explored at the Brookings Center for Sustainable Development (CSD), including in the context of the 17 Rooms initiative,[7] making progress on societal challenges often depends on small, time-bound teams coming together—across sectors, disciplines, and geographies—to share knowledge, align priorities, and chart shared action. For such teams, the real opportunity of generative AI is not just producing cleaner prose or faster code, but transforming the way teams collaborate, think together, and build and scale strategies for systemic change.

---

[1] Tyna Eloundou, Sam Manning, Pamela Mishkin, and Daniel Rock, "GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models," arXiv preprint arXiv:2303.10130 (March 2023), https://arxiv.org/abs/2303.10130

[2] Catherine Baarb, "The age of AI layoffs is already here. The reckoning is just beginning", Quartz (June 2025), https://qz.com/ai-layoffs-jobs-microsoft-walmart-tech-workers-1851782194

[3] Marko J. Mrkonich et al., "Littler's 2024 AI C-Suite Survey Report" (Littler Mendelson P.C., September 24, 2024), https://www.littler.com/news-analysis/littler-report/littlers-2024-ai-c-suite-survey-report.

[4] Ethan Mollick, "Latent Expertise: Everyone Is in R&D," One Useful Thing, June 20, 2024, https://www.oneusefulthing.org/p/latent-expertise-everyone-is-in-r.

[5] Atlassian Teamwork Lab, "The state of teams 2025", accessed June 2, 2025. https://atlassianblog.wpengine.com/wp-content/uploads/2025/03/the-state-of-teams-2025.pdf

[6] Jacob Taylor, "The most important question when designing AI," Brookings Institution, May 20, 2024, https://www.brookings.edu/articles/the-most-important-question-when-designing-ai/.

[7] Brookings Institution, 17 Rooms, accessed May 16, 2025, https://www.brookings.edu/projects/17-rooms/.

To this end, this working paper explores how generative AI could support new forms of team collaboration for the world's toughest challenges—in this case illustrated by the problem of ending extreme poverty globally. We propose and demonstrate the idea of "vibe teaming," where AI is embedded in team workflows from the outset to support collaborative problem-solving. It is hoped that sharing these early observational findings will elicit feedback and prompt broader experimentation, from which collective testing and validation of vibe teaming and other similar approaches can emerge over time.

The state of human-AI teaming for collective intelligence

Generative AI's generalized reasoning capabilities and natural language interfaces open up a new design space for embedding AI not just into narrowly defined automation tasks, but into the workflows of human teams. However, the dominant paradigm of AI system research and development typically focuses on AI systems in isolation from human operators or collaborators, making it difficult to identify and advocate for the role that humans play in enabling value creation with AI systems.[8] This issue stems from a division of labor between (1) technical approaches that implicitly pursue machine autonomy (AI systems acting independently to replace or outperform human capabilities); and (2) governance approaches that seek to preserve human safety, oversight, and equity by constraining or guiding AI system deployment.[9]

A growing paradigm of research and practice proposes focusing instead on human-AI hybrid systems as the unit of analysis to identify synergies and capabilities that align with human needs and promote societal value creation.[10] This approach argues for AI not as a replacement for human cognition but as a complement. Rather than merely accelerating individual task automation, it explores how AI can be embedded into collaborative human workflows in ways that amplify human strengths in creativity, judgment, and contextual understanding while increasing overall teamwork productivity and performance.[11,12]

Emerging research within subfields of human-AI interaction (HAI), computer-supported cooperative work (CSCW), and "AI for Collective Intelligence" (CI) has begun to identify mechanisms and principles for advancing human-AI teaming for

[8] James Guszcza et al., Hybrid intelligence: A paradigm for more responsible practice, October 12, 2022, SSRN, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4301478.
[9] Ben Shneiderman, Human-Centered AI (Oxford: Oxford University Press, 2022).
[10] Cristina Simón, Elena Revilla, and Maria Jesús Sáenz, “Integrating AI in Organizations for Value Creation through Human-AI Teaming: A Dynamic-Capabilities Approach,” Journal of Business Research 182 (September 2024): 114783, https://doi.org/10.1016/j.jbusres.2024.114783.
[11] Christoph Riedl, “How to use AI to build your company’s collective intelligence,” Harvard Business Review, October 16, 2024, https://hbr.org/2024/10/how-to-use-ai-to-build-your-companys-collective-intelligence.
[12] Thomas P. Kehler, Scott E. Page, Alex Pentland, Martin Reeves, and John Seely Brown, "Amplifying Human Creativity and Problem Solving with AI Through Generative Collective Intelligence" arXiv, last revised June 4, 2025. https://arxiv.org/abs/2505.19167.

CI. This work includes design principles for effective human-AI systems that make clear what the system can do, ensure human control when needed, and learn from user input.[13] Other research aims to explore how the framing of "machines as teammates" might affect roles, trust dynamics, and shared mental models in human teams and organizations as a function of AI's varied use for automation, augmentation, orchestration, and co-creation in teamwork settings.[14]

Concurrently, researchers have begun to formalize cognitive mechanisms and architectures to support human-machine CI.[15] This work emphasizes the need to foster cognitive capabilities such as social perceptiveness (known as "theory of mind" in social psychology) and pursuit of shared goals,[16,17] which are essential for trust, explainability, situational awareness, and flexible role adaptation in dynamic group environments.[18]

Drawing on a body of evidence on core psychological processes associated with CI in teams,[19] Riedl and De Cremer recently proposed AI's role in supporting: (i) collective memory (by organizing distributed knowledge, surfacing hidden insights, and helping team members model who knows what), (ii) collective attention (by synchronizing focus, reducing task-switching costs, and managing cognitive bandwidth across teams), and (iii) collective reasoning (by amplifying diverse perspectives, aligning group priorities, and aiding in adaptive decisionmaking).[20] This three-part decomposition raises the possibility of developing human-AI co-creative systems, where human users interact with each other and AI agents as active partners in team processes that support CI.[21]

In this vein, empirical work has begun to explore how human-AI collaboration unfolds in complex, real-world environments, where human judgment,

---

[13] Saleema Amershi et al., "Guidelines for Human-AI Interaction," Microsoft Research, May 2019, https://www.microsoft.com/en-us/research/publication/guidelines-for-human-ai-interaction/.
[14] Isabella Seeber et al., "Machines as teammates: A research agenda on AI in team collaboration," *Information & Management* 57, no. 2 (2020): 103174, https://doi.org/10.1016/j.im.2019.103174.
[15] Cleotilde Gonzalez et al., "COHUMAIN: Building the Socio-Cognitive Architecture of Collective Human–Machine Intelligence," Topics in Cognitive Science (June 18, 2023), https://doi.org/10.1111/tops.12673.
[16] Rafael Kaufmann, Pranav Gupta, and Jacob Taylor, "An active inference model of collective intelligence," *Entropy* 23, no. 7 (2021): 830, https://doi.org/10.3390/e23070830.
[17] Michael S. Harré, Catherine Drysdale, and Jaime Ruiz-Serra, "Theory of Mind Enhances Collective Intelligence," *arXiv* preprint arXiv:2411.09168, November 14, 2024, https://arxiv.org/abs/2411.09168.
[18] Mica R. Endsley, "Supporting Human-AI Teams: Transparency, Explainability, and Situation Awareness," Computers in Human Behavior 140 (March 2023): 107574, https://doi.org/10.1016/j.chb.2022.107574.
[19] Christoph Riedl, Young Ji Kim, Pranav Gupta, Thomas W. Malone, and Anita Williams Woolley, "Quantifying Collective Intelligence in Human Groups," Proceedings of the National Academy of Sciences of the United States of America 118, no. 21 (May 25, 2021): e2005737118, https://doi.org/10.1073/pnas.2005737118.
[20] Christoph Riedl and David De Cremer, "AI for Collective Intelligence," Collective Intelligence, April 3, 2025, https://doi.org/10.1177/26339137251328909.
[21] Samuel Westby and Christoph Riedl, "Collective Intelligence in Human-AI Teams: A Bayesian Theory of Mind Approach," Proceedings of the 37th AAAI Conference on Artificial Intelligence, https://www.semanticscholar.org/paper/Collective-Intelligence-in-Human-AI-Teams%3A-A-Theory-Westby-Riedl/3e6c44fa97a3871eb67467cfac40fb6cf56f104d.

coordination, and social dynamics play a critical role.[22,23] A recent field study of 776 employees at Procter and Gamble, for example, found that individuals and teams paired with AI produced better outputs (product briefs) than individuals and teams working without AI, and that teams paired with AI produced outputs that better integrated diverse perspectives than teams without AI.[24] The study also found that individuals and teams assisted by AI reported more positive emotional responses than individuals and teams without AI. This finding aligns with research showing a relationship between positive experience of AI and feelings of positive personal agency.[25]

Taken together, these studies suggest that generative AI, when actively integrated into team processes in specific ways, could help support more innovative collective outcomes in knowledge work while also increasing productivity. Moreover, it appears that human subjective experience of AI extending human agency and supporting human-to-human collaboration could help promote engagement in (and adherence to) human-AI teaming workflows.

This raises the question of how to embed generative AI tools into human-human workflows in ways that support team collective intelligence through a combination of enhanced work productivity and social well-being.

[22] Erik Brynjolfsson, Danielle Li, and Lindsey R. Raymond, Generative AI at Work, NBER Working Paper No. 31161 (Cambridge, MA: National Bureau of Economic Research, April 2023, revised November 2023), https://www.nber.org/papers/w31161.
[23] Pranav Gupta et al., "Using Digital Nudges to Enhance Collective Intelligence in Online Collaboration: Insights from Unexpected Outcomes," MIS Quarterly 48, no. 1 (2024): 393–426, https://doi.org/10.25300/MISQ/2023/16752.
[24] Fabrizio Dell'Acqua et al., "The Cybernetic Teammate: A Field Experiment on Generative AI Reshaping Teamwork and Expertise," Harvard Business School Strategy Unit Working Paper No. 25-043 (March 28, 2025), SSRN, https://ssrn.com/abstract=5188231.
[25] Gaoxia Zhu, Vidya Sudarshan, Jason Fok Kow, and Yew Soon Ong, "Human-Generative AI Collaborative Problem Solving: Who Leads and How Students Perceive the Interactions," arXiv, May 19, 2024, https://arxiv.org/abs/2405.13048.

Introducing vibe teaming

"Vibe coding" may offer a useful starting point to answering this research question. A recently viral term coined by prominent software engineer Andrej Karpathy, vibe coding describes a generative AI-enabled software development practice where developers articulate their desired outcomes in natural language (literally talking out the "vibe" of an idea to an AI model), and allowing AI models to produce initial code drafts.[26] Freed from syntax-heavy tasks, software developers can iterate rapidly and emphasize strategy over implementation details. Through vibe coding, coders become orchestrators in a human-to-AI relationship. In recent months, online conversations about "vibe coding" have rapidly evolved into a broader concept of "vibe working,"[27] extending beyond coding to knowledge work domains such as marketing and communications.[28]

Vibe teaming attempts to leverage generative AI's natural language interface and generalized intelligence in ways that prioritize and elevate—rather than replace—human-to-human interaction within teams while also increasing team productivity by performing the lower-level tasks of transcription and drafting. For example, by delegating the more mundane or repetitive work to AI, we have found ourselves able to redirect our own energies toward more human-to-human engagement: strategic thinking, deeper ideation, and critical reflection, pushing the boundaries of conventional collaboration.

[26] Andrej Karpathy (@karpathy), "There's a new kind of coding I call 'vibe coding', where you fully give in to the vibes, embrace exponentials, and forget that the code even exists...," X (formerly Twitter), February 2, 2025, https://x.com/karpathy/status/1886192184808149383.
[27] Azeem Azhar, "Introducing the Vibe Worker," Exponential View, March 1, 2025, https://www.exponentialview.co/p/introducing-the-vibe-worker.
[28] Andrew Bruce Smith, "Vibe Comms: Using AI for PR and Communications While Preserving Human Expertise," LinkedIn, March 13, 2025, https://www.linkedin.com/pulse/vibe-comms-using-ai-pr-communications-while-preserving-smith-cmz7e/.

Four main steps of vibe teaming

Through several weeks of vibe teaming experimentation, we settled on four consistent steps:

Table 1. Vibe teaming approach

Step	Human-AI configuration	Description
1. Structured team conversation, transcribed by AI	Team (Homi, Jacob, Kershlin)+AI	Semi-structured team conversation addressing a shared goal or output. AI tools are used to record and transcribe the session.
2. First draft via AI	Individual (Kershlin) +AI	Customized LLM model generates fast first draft outputs using conversation transcript.
3. Human-AI drafting	Team (Jacob, Kershlin)+AI	Interaction with customized LLM to develop and refine initial draft.
4. Structured team review, transcribed by AI	Team (Homi, Jacob, Kershlin)+AI	Follow-up team conversation to identify inaccuracies and refine insights. Conversation transcript used to refine outputs.

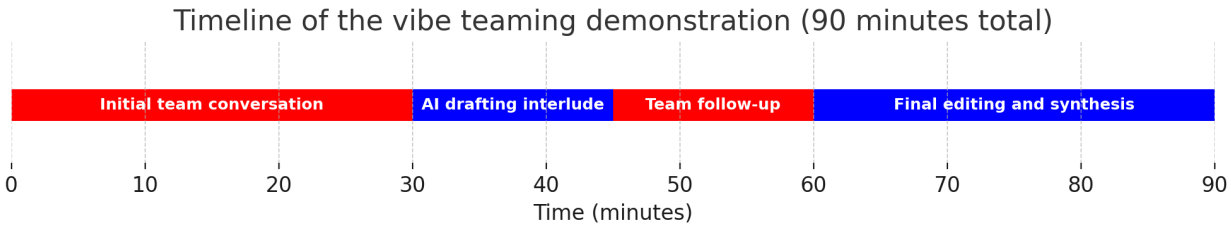
To demonstrate the value of vibe teaming, we (Jacob and Kershlin) conducted a case study developing a coherent strategy for ending global extreme poverty (SDG 1.1) in collaboration with CSD senior fellow and leading global development economist and poverty expert, Homi Kharas.[29] Through this roughly 90-minute process, vibe teaming produced a refined, actionable strategy, which was then converted into a draft Brookings-style commentary.[30] The goal was not to formally benchmark performance or quantify productivity gains of this approach, but to explore an alternative paradigm of human-human-AI collaboration for knowledge work.

[29] Homi Kharas, "Homi Kharas," Brookings Institution, accessed May 16, 2025, https://www.brookings.edu/people/homi-kharas/.
[30] Homi Kharas, Jacob Taylor, Kershlin Krishna, and ChatGPT, "A new paradigm for ending extreme poverty globally", Forthcoming, Brookings commentary.

2. Operationalizing vibe teaming for ending extreme poverty

The vibe teaming demonstration was completed in approximately 90 minutes. This included a 45-minute virtual meeting with Homi Kharas, divided across two virtual conversations: an initial 30-minute semi-structured interview, followed by a 15-minute review conversation held shortly afterward. In between the two sessions with Homi, Jacob, and Kershlin worked together for 15 minutes with a customized LLM to draft the initial strategy. Following the second conversation segment with Homi, Jacob, and Kershlin spent an additional 30 minutes refining outputs, before sharing with Homi for final review and edits.[31]

Figure 1. Timeline of vibe teaming demonstration[32]



The details of each stage of the demonstration are outlined below:

(i) Initial team conversation, transcribed by AI - 30 minutes

An initial 30-minute semi-structured interview with Homi was designed to understand the problem, surface constraints, and identify potential solutions to SDG1.1. In a dynamic and informal team conversation, we queried and interrogated Homi to tease out his views on the details and implicit crux of the challenges and solutions for eradicating extreme poverty. Guiding questions for this conversation included:

- What are the key challenges to ending global extreme poverty?
- What specific barriers must be overcome?
- Why haven't existing solutions worked?
- What does a fresh strategy for poverty eradication look like?
- How feasible would it be to implement? What would it cost, and who needs to pay?
- What is the one core insight people need to know about when approaching the challenge of extreme poverty eradication?

[31]The extent of post-session input and refinement is left open to the expert's discretion. In the case of this working paper, further exchanges and edits with Homi occurred as part of the publication and editorial process.
[32] This timeline was generated using ChatGPT, an OpenAI generative AI tool.

The session was recorded and transcribed using AI transcription software.

(ii) First draft via AI - 5 minutes

We used the interview transcript to synthesize insights from the conversation into a coherent strategy using an LLM customized to produce ambitious yet feasible strategies for SDG implementation. Through prior configuration, prompting, and experimentation with the custom model, we established a repeatable, 5-step process for an SDG implementation strategy (see Table 2):

Table 2. Customized LLM's five-step process for developing SDG implementation strategies

- **Step 1: Diagnose the problem precisely**
  Identify the specific target, current trajectory, and geographic concentration of the shortfall—to understand what's off track, where, and why.
- **Step 2: Surface the binding constraints**
  Map the systemic, institutional, or political barriers that are preventing progress—distinguishing between supply, demand, data, and governance failures.
- **Step 3: Identify scalable strategic levers**
  Pinpoint 3-5 interventions with proven effectiveness and high feasibility that are directly matched to the binding constraints—not just technically sound, but politically and operationally deployable.
- **Step 4: Cost the strategy and assign delivery roles**
  Estimate the total investment needed, break it down by component, and identify who needs to fund it, who needs to deliver it, and what institutional architecture is missing.

  Step 5: Sequence the execution and frame the message
  Lay out a time-bound implementation pathway (e.g., a five-year clock to 2030) and build compelling narratives to unlock action from decisionmakers, funders, and citizens.

(iii) Human-AI drafting - 10 minutes

To encourage originality and depth of model outputs, we engaged in a 10-minute conversation with the model to interrogate and iterate the strategy, testing the emerging proposal across four relevant dimensions: policy nuance, political feasibility, practical implementation, and communication strategy.

(iv) Team follow-up review, transcribed by AI - 15 minutes

We held a 15-minute follow-up meeting with Homi to review the strategy and identify any gaps, inaccuracies, and opportunities for enhancement.

(v) Final editing and synthesis - 30 minutes

We used the transcript of the follow-up 15-minute conversation with Homi to develop a refined strategy. Once we were happy with the strategy, we asked the model to convert the strategy outline into a draft Brookings-style commentary for forthcoming publication. We spent approximately 20 minutes editing this commentary for accuracy and voice before sharing it with Homi for his review and further edits.

3. Results: A strategy for global poverty eradication

Below is the final output of the vibe teaming demonstration (Table 3). This output has been refined through expert review.

Table 3. Vibe teaming strategy output[33]

A strategy to achieve SDG 1.1: Ending extreme poverty by 2030

Framing insight: Historical efforts to reduce poverty rode the wave of broad-based economic growth. Today's challenge is different: it's not just about growth—it's about reaching people that growth has left behind.

Step 1: Diagnose the problem precisely

Target: Eradicate extreme poverty for all people everywhere by 2030—defined as those living on less than $2.15/day in 2017 PPP terms.
Operational country-level benchmark: <3% of population living in extreme poverty.

Current trajectory

- As of 2024, ~700 million people still live in extreme poverty under the 2017 PPP definition.[34]
- Poverty is increasingly geographically and politically concentrated in a small set of fragile or stagnating countries and places.
- In the 2020s, economic growth has increasingly bypassed the places where poverty is most concentrated—leaving many countries and subnational regions off track even before COVID.

What's off track?

- Growth is no longer lifting the poorest: the gains of the past were powered by structural transformation in China, India, and Southeast Asia, which masked persistent exclusion elsewhere.
- The final mile is concentrated in high-fertility, low-growth contexts (e.g., northern Nigeria, eastern DRC, South Sudan).

[33] This strategy was generated through a process of vibe teaming, which included the use of ChatGPT, a generative AI tool developed by OpenAI. The AI tool was used in April 2025 to assist to synthesise expert analysis and draft initial outputs. All final content was reviewed for factual accuracy and revised by the author(s) prior to publication.
[34] World Bank Group, "Poverty, Prosperity, and Planet Report: Pathways Out of the Polycrisis," 2024, https://www.worldbank.org/en/publication/poverty-prosperity-and-planet.

- A mindset persists that poor people need "services" more than agency—a view Kharas identifies as outdated and harmful.

Step 2. Surface the binding constraints
We are not short on technical solutions — we're short on institutional trust, delivery legitimacy, and political courage. Let's map the main constraints:

1. Political economy of allocation

- In countries like Nigeria, redistributive programs are blocked by federal balance-of-power dynamics. Targeting the poorest regions (e.g., the North) risks upsetting internal fiscal sharing norms.

2. Mindset orthodoxy among donors and elites

- The powerful (donors, central governments, philanthropists) still cling to the belief that they "know best," resisting trust-based models like unconditional cash transfers.

3. Operational incompatibility in fragile states

- High-friction environments with corruption, weak infrastructure, and non-state control areas make traditional program models undeliverable.

4. Perceived unfairness in program design

- Piecemeal delivery or inconsistent eligibility triggers social backlash, erodes trust, and makes scale-up politically fragile.

5. Legacy gaps in poverty identification

- Until recently, we didn't know where the poor were. Now, poverty hotspot maps and geospatial targeting can change the game—but uptake is lagging.

Step 3. Identify scalable strategic levers

The key is not just what works—it's what works at scale, under political pressure, and in fragile ecosystems.

Five scalable levers

1. **Digital Cash Transfers 2.0**
    - Now deliverable at <10% overhead thanks to mobile ID + G2P rails.

- Evidence-backed, gender-sensitive (target women).
- Disarm top-down orthodoxy by putting agency first.
- Example: Togo's Novissi program used machine learning to target individual beneficiaries at speed and scale.[35]

2. **Rural Opportunity Zones (ROZs)**
   - High-potential agricultural or artisanal areas with coordinated inputs + aggregation + off-take.
   - Anchored by safety nets so poor households can specialize without fear.
   - Example: Japan's "One Village, One Product" Movement helped rural communities boost local economies by promoting unique value-added products using local resources.[36]
3. **Employment guarantees, localized**
   - Think MGNREGS-style programs delivered via CSOs in fragile contexts, not state bureaucracies.[37]
   - Useful in contexts where labor markets are thin and underemployment is chronic.
4. **Enterprise enablement grants**
   - Targeted micro-entrepreneurship support with small grants, training, and market linkage.
   - Builds livelihoods, dignity, and upward mobility.
   - Example: The Microsoft 4Afrika Initiative, which is accelerating Africa's digital transformation by investing in skills development, innovation, and access to technology, supporting hundreds of startups and small businesses across the continent.[38]
5. **Nutrition and vaccine top-ups in fragile settings**
   - Deliver fortified foods, nutrition supplements, and vaccines via trusted humanitarian actors in fragile settings.
   - Modeled on Gavi and WFP: a basic survival floor where state systems can't reach, especially for mothers and children.
   - Example: UNICEF's Community-based Integrated Management of Acute Malnutrition (CMAM) prevented 1.2 million deaths among children aged 6–

[35] World Bank, "Prioritizing the Poorest and Most Vulnerable in West Africa: Togo's Novissi Platform for Social Protection Uses Machine Learning," World Bank, April 13, 2021, https://www.worldbank.org/en/results/2021/04/13/prioritizing-the-poorest-and-most-vulnerable-in-west-africa-togo-s-novissi-platform-for-social-protection-uses-machine-l.
[36] Government of Japan, "Highlighting Japan: February 2024," Highlighting Japan, February 2024, https://www.gov-online.go.jp/eng/publicity/book/hlj/html/202402/202402_06_en.html.
[37] Haryana Rural Development Department, "Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)," accessed May 16, 2025, https://haryanarural.gov.in/mahatma-gandhi-national-rural-employment-guarantee-scheme-mgnregs/.
[38] Microsoft, "Microsoft's 4Afrika Initiative: How it's impacted South Africa, and the continent, seven years on," Microsoft News Center, October 8, 2019, https://news.microsoft.com/en-xm/2019/10/08/microsofts-4afrika-initiative-how-its-impacted-south-africa-and-the-continent-seven-years-on/.

59 months by ensuring timely access to treatment in high under-five mortality countries.[39]

Step 4. Cost the strategy and assign delivery roles

Estimated total investment: $300-400B (2025–2030)

$300–400 billion over five years, reflecting a revised programmatic budget that builds on recent poverty gap analyses.[40]

Allocation breakdown

Component	Est. share*	Who pays	Who delivers
Cash Transfers	40%	Govts, World Bank, Bilaterals	Govts, NGOs, mobile operators
ROZ Infra + Extension	20%	MDBs, IFAD, national budgets	Local govts, cooperatives
Employment Schemes	15%	Govts, climate/job funds	CSOs, local govt
Enterprise Grants	10%	Philanthropy, challenge funds	NGOs, incubators
Fragility Floor	15%	U.N., Gavi-style global fund	UNHCR, UNICEF, civil society

*To balance coverage, catalytic potential, and delivery feasibility:

- Unconditional cash transfers (40%) receive the largest share due to their strong evidence base, high marginal return, and scalability—especially in low-capacity settings.
- Rural Opportunity Zones (20%) warrant substantial investment given their ability to unlock productivity gains at community level.
- Employment schemes (15%) are relatively costlier per beneficiary but essential for income stabilization in fragile states.
- Enterprise grants (10%) target narrower segments—such as informal entrepreneurs—but serve critical livelihood and dignity functions.

[39] United Nations Children's Fund (UNICEF), No Time to Waste – 2024: Update and Call to Urgent Action (New York: UNICEF, October 2024), https://www.unicef.org/media/163336/file/NTTW-2024.pdf.
[40] Cina Lawson and Rory Stewart. A purpose-driven global fund for scaling digital cash transfers to accelerate progress on ending extreme poverty by 2030: 17 Rooms: Room 1 Concept Note. Washington, DC: Brookings Institution and The Rockefeller Foundation, December 2023. https://www.brookings.edu/wp-content/uploads/2023/12/2023-Room-1-Concept-Note.pdf.

- The final 15% supports fragility-adapted delivery systems—essential enablers without which the rest of the portfolio cannot function.

What's missing?

- A Global Compact to End Extreme Poverty, akin to the Global Fund, to channel funding to verified country plans.
- A financing platform that aligns trust-based models (e.g., GiveDirectly) with public systems.

Step 5: Sequence the execution and frame the message

Time-bound path to 2030

Year	Milestone
2025	Launch Global Compact; publish global poverty hotspot maps; fund first 10 national action plans.
2026	100M people reached with cash, ROZ, or employment programs; test social fairness safeguards.
2027	Mid-course check-in; redesigns based on what's working in fragile states.
2028	Independent verification framework in place; expand compact to 25+ countries.
2030	Global extreme poverty <3%; legacy systems in place to prevent reversal.

Narrative and message architecture

Frame	Core message
Moral	The people we've left behind are not hard to help—they're just easy to ignore.
Strategic	We knew how to reduce poverty through growth. Now we must learn how to end it through trust.
Political	This is not charity. This is fixing a failure of our systems to listen and adapt.
Radical	Give power back. Let the poor lead.

Historical arc

Past paradigm:
Poverty fell via growth-led inclusion in China, India, SE Asia—structural transformation, urbanization, and export booms drove mass uplift.

Today's reality:
The remaining poor are in places growth has bypassed, often due to fragility, marginalization, or political dysfunction.

New paradigm needed:
This is no longer about growth trickling down—it's about intelligent redistribution that trusts people, leverages tech, and respects local legitimacy.

Summary

We are not in a knowledge deficit. We are in a trust deficit. This strategy isn't about inventing new tools—it's about removing the excuses. Let's go from "why hasn't this worked?" to "what's changed that lets us finally finish the job?"

4. Discussion: Reflections on human-human-AI team effectiveness

The results above represent an initial demonstration of "vibe teaming"—a structured approach to integrating generative AI into collaborative workflows for strategy development. Through a roughly 90-minute session involving two facilitators (Jacob and Kershlin), a domain expert (Homi), and a customized AI model, we produced a coherent and policy-relevant strategy to end global extreme poverty as well as a draft commentary.[41] These outputs indicate vibe teaming's potential to support and accelerate team-based knowledge production through emphasizing and enlivening—rather than detracting from—human-to-human interaction itself.

The findings of this demonstration resonate with emerging research on human-AI teaming that emphasizes the potential of generative AI to augment social cognition, support distributed reasoning, and enable new forms of human-machine collaboration.[42] By positioning AI not as a task executor but more as a teammate—facilitating real-time transcription, drafting, and synthesis—vibe teaming could help amplify rather than displace human agency and value contribution within human-AI workflows.

Lessons and insights

Through experimentation with the vibe teaming approach, several key lessons emerged:

- **Start with rich human context:** We found that AI models generated higher-quality outputs when seeded with transcripts of real, expert-informed team conversations. In contrast to a more dominant paradigm of AI development, in which AI is generally framed as an autonomous system replacing human knowledge work or providing knowledge support to individuals, this insight suggests that human-to-human knowledge creation and AI tools can be mutually reinforcing—best results may come from combining both.

[41] Homi Kharas, et al., "A new paradigm for ending extreme poverty globally", Forthcoming, Brookings commentary.
[42] Christoph Riedl and David De Cremer, "AI for Collective Intelligence," Collective Intelligence, April 3, 2025, https://doi.org/10.1177/26339137251328909.

- **Customize and coach the model:** AI outputs improved when we iterated prompts and tuned settings to avoid generic, homogenized, or sycophantic results.[43]
- **Human review remains essential:** Expert oversight added critical insight, fixed errors, and elevated strategic framing beyond what AI alone could produce—another indicator of the benefits of principled integration of human and AI knowledge creation that plays to the strengths of each.

Anecdotally, we have experienced increased energy and focus incorporating the vibe teaming approach into our workflows. Freed from transcription and drafting minutiae, we have been able to spend more time collaborating—probing ideas, refining arguments, and identifying blind spots—which has made work more enjoyable and more generative.

Limitations and risks

The method's generalizability remains untested. This demonstration involved a high-functioning team with significant policy experience, strong facilitation skills, and a supportive professional environment. It is unclear how the method would perform with larger or more diverse teams, weaker facilitation, or adversarial dynamics. Similarly, the quality of AI output could remain largely dependent on idiosyncratic details of model prompting and configuration, expert human review, and iterative refinement—all of which may introduce new inequities or burdens for teams lacking technical fluency in these domains.

This approach also poses risks:

- **Data security and privacy:** Transcribing sensitive team conversations introduces new risks that demand rigorous data governance. Large volumes of transcribed interactions require strong data management and privacy measures—often beyond what teams are used to.[44]

[43] Malihe Alikhani, “Breaking the AI Mirror,” Brookings Institution, April 15, 2025, https://www.brookings.edu/articles/breaking-the-ai-mirror/.
[44] Katharine Miller, "Privacy in an AI Era: How Do We Protect Our Personal Information?" Stanford Institute for Human-Centered Artificial Intelligence (HAI), March 18, 2024, https://hai.stanford.edu/news/privacy-ai-era-how-do-we-protect-our-personal-information.

- **Bias and convergence traps:** Models converge rapidly on conventional answers, underscoring the need for mechanisms that encourage divergent thinking,[45] as well as human expertise and authority as oversight.[46]
- **Cognitive atrophy:** Over-reliance on AI for drafting and editing tasks may weaken team abilities for structuring arguments and honing prose—especially among early career staff or in low- or medium-performing teams.[47]

Well-designed team interventions could help mitigate some of the potential risks of vibe teaming: regular "bias audits" could help check AI outputs against dissenting data or fresh eyes; a designated "data shepherd" could oversee data storage and access. And while we value the common view that writing supports thinking, we also see emerging AI tools enabling new forms of collaborative writing—a paradigm shift that warrants its own kind of mastery.[48]

5. Conclusion

As institutions adapt to an AI-driven era, one critical challenge will be reimagining how people work together with powerful new tools to preserve human agency and value creation. Vibe teaming offers a promising model: AI embedded from the outset as a teammate, not a post-hoc assistant. The result is not limited to faster document creation, but deeper collective synthesis and outputs that reflect a team's collective intelligence. Vibe teaming points to a deeper shift urgently needed in the AI era: moving from fragmented task optimization to building smarter, more resilient teams and systems that complex global challenges demand.

[45] Anirban Mukherjee and Hannah H. Chang, "Managing the Creative Frontier of Generative AI: The Novelty-Usefulness Tradeoff," California Management Review, July 24, 2023, https://cmr.berkeley.edu/2023/07/managing-the-creative-frontier-of-generative-ai-the-novelty-usefulness-tradeoff/.
[46] Sarah Sterz et al., On the quest for effectiveness in human oversight: Interdisciplinary perspectives, arXiv preprint, last modified April 5, 2024, https://arxiv.org/abs/2404.04059.
[47] Fabrizio Dell'Acqua, Bruce Kogut, and Patryk Perkowski, Super Mario Meets AI: Experimental Effects of Automation and Skills on Team Performance and Coordination, SSRN preprint, last revised April 13, 2023, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3746564.
[48] Andrew Myers, "Meet CoAuthor, an Experiment in Human-AI Collaborative Writing," Stanford HAI, May 25, 2022, https://hai.stanford.edu/news/meet-coauthor-experiment-human-ai-collaborative-writing.

References

Alikhani, Malihe. "Breaking the AI Mirror." Brookings Institution, April 15, 2025. https://www.brookings.edu/articles/breaking-the-ai-mirror/.

Atlassian Teamwork Lab, "The state of teams 2025", accessed June 2, 2025. https://atlassianblog.wpengine.com/wp-content/uploads/2025/03/the-state-of-teams-2025.pdf

Azhar, Azeem. "Introducing the Vibe Worker." Exponential View, March 1, 2025. https://www.exponentialview.co/p/introducing-the-vibe-worker.

Baarb, Catherine. "The age of AI layoffs is already here. The reckoning is just beginning", Quartz (June 2025), https://qz.com/ai-layoffs-jobs-microsoft-walmart-tech-workers-1851782194

Brookings Institution, 17 Rooms, accessed May 16, 2025, https://www.brookings.edu/projects/17-rooms/.

Brynjolfsson, Erik, Danielle Li, and Lindsey R. Raymond. Generative AI at Work. NBER Working Paper No. 31161. Cambridge, MA: National Bureau of Economic Research, April 2023. https://www.nber.org/papers/w31161.

Dell'Acqua, Fabrizio, Bruce Kogut, and Patryk Perkowski. "Super Mario Meets AI: Experimental Effects of Automation and Skills on Team Performance and Coordination." SSRN preprint, last revised April 13, 2023. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3746564.

Dell'Acqua, Fabrizio, Charles Ayoubi, Hila Lifshitz-Assaf, Raffaella Sadun, Ethan R. Mollick, Lilach Mollick, Yi Han, Jeff Goldman, Hari Nair, Stew Taub, and Karim R. Lakhani. "The Cybernetic Teammate: A Field Experiment on Generative AI Reshaping Teamwork and Expertise." Harvard Business School Strategy Unit Working Paper No. 25-043, March 28, 2025. SSRN. https://ssrn.com/abstract=5188231.

Eloundou, Tyna, Sam Manning, Pamela Mishkin, and Daniel Rock, GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models, arXiv preprint arXiv:2303.10130 (March 2023), https://arxiv.org/abs/2303.10130

Endsley, Mica R. "Supporting Human-AI Teams: Transparency, Explainability, and Situation Awareness." Computers in Human Behavior 140 (March 2023): 107574. https://doi.org/10.1016/j.chb.2022.107574.

Gonzalez, Cleotilde, Henny Admoni, Scott Brown, and Anita Williams Woolley. "COHUMAIN: Building the Socio-Cognitive Architecture of Collective Human-Machine Intelligence." Topics in Cognitive Science (June 18, 2023). https://doi.org/10.1111/tops.12673.

Government of Japan. "Highlighting Japan: February 2024." Highlighting Japan, February 2024. https://www.gov-online.go.jp/eng/publicity/book/hlj/html/202402/202402_06_en.html.

Gupta, Pranav, Young Ji Kim, Ella Glikson, and Anita Williams Woolley. "Using Digital Nudges to Enhance Collective Intelligence in Online Collaboration: Insights from

Unexpected Outcomes." MIS Quarterly 48, no. 1 (2024): 393–426. https://doi.org/10.25300/MISQ/2023/16752.

Guszcza, James, David Danks, Christopher R. Fox, Kenneth J. Hammond, Daniel E. Ho, and others. "Hybrid Intelligence: A Paradigm for More Responsible Practice." SSRN, October 12, 2022. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4301478.

Harré, Michael S., Catherine Drysdale, and Jaime Ruiz-Serra. "Theory of Mind Enhances Collective Intelligence." arXiv preprint arXiv:2411.09168, November 14, 2024. https://arxiv.org/abs/2411.09168.

Haryana Rural Development Department. "Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)." Accessed May 16, 2025. https://haryanarural.gov.in/mahatma-gandhi-national-rural-employment-guarantee-scheme-mgnregs/.

Karpathy, Andrej (@karpathy). "There's a new kind of coding I call 'vibe coding,' where you fully give in to the vibes, embrace exponentials, and forget that the code even exists..." X (formerly Twitter), February 2, 2025. https://x.com/karpathy/status/1886192184808149383.

Kaufmann, Rafael, Pranav Gupta, and Jacob Taylor. "An Active Inference Model of Collective Intelligence." Entropy 23, no. 7 (2021): 830. https://doi.org/10.3390/e23070830.

Kehler, Thomas P., Scott E. Page, Alex Pentland, Martin Reeves, and John Seely Brown. 2025. "Amplifying Human Creativity and Problem Solving with AI Through Generative Collective Intelligence." arXiv:2505.19167 [cs.AI], last revised June 4, 2025. https://arxiv.org/abs/2505.19167.

Kharas, Homi, and John W. McArthur. Updating institutional technologies: A purpose-driven fund to end extreme poverty. Global working paper #183. Washington, DC: Brookings Institution, August 2023. https://www.brookings.edu/wp-content/uploads/2023/08/Kharas-McArthur-Purpose-driven-fund-Working-Paper.pdf.

Kharas, Homi. "Homi Kharas." Brookings Institution. Accessed May 16, 2025. https://www.brookings.edu/people/homi-kharas/.

Kharas, Homi, Jacob Taylor, Kershlin Krishna, and ChatGPT, "A new paradigm for ending extreme poverty globally," Forthcoming, Brookings commentary.

Lawson, Cina, and Rory Stewart. A purpose-driven global fund for scaling digital cash transfers to accelerate progress on ending extreme poverty by 2030: 17 Rooms: Room 1 Concept Note. Washington, DC: Brookings Institution and The Rockefeller Foundation, December 2023. https://www.brookings.edu/wp-content/uploads/2023/12/2023-Room-1-Concept-Note.pdf.

McKinsey & Company. "The Economic Potential of Generative AI: The Next Productivity Frontier." June 14, 2023. https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier.

Microsoft. "Microsoft's 4Afrika Initiative: How It's Impacted South Africa, and the Continent, Seven Years On." Microsoft News Center, October 8, 2019. https://news.microsoft.com/en-xm/2019/10/08/microsofts-4afrika-initiative-how-its-impacted-south-africa-and-the-continent-seven-years-on/.

Miller, Katharine. "Privacy in an AI Era: How Do We Protect Our Personal Information?" Stanford Institute for Human-Centered Artificial Intelligence (HAI), March 18, 2024. https://hai.stanford.edu/news/privacy-ai-era-how-do-we-protect-our-personal-information.

Mollick, Ethan. "Latent Expertise: Everyone Is in R&D." One Useful Thing, June 20, 2024. https://www.oneusefulthing.org/p/latent-expertise-everyone-is-in-r.

Mrkonich, Marko J., and Niloy Ray. Littler's 2024 AI C-Suite Survey Report. Littler Mendelson P.C., September 24, 2024. https://www.littler.com/news-analysis/littler-report/littlers-2024-ai-c-suite-survey-report.

Mukherjee, Anirban, and Hannah H. Chang. "Managing the Creative Frontier of Generative AI: The Novelty-Usefulness Tradeoff." California Management Review, July 24, 2023. https://cmr.berkeley.edu/2023/07/managing-the-creative-frontier-of-generative-ai-the-novelty-usefulness-tradeoff/.

Myers, Andrew. "Meet CoAuthor, an Experiment in Human-AI Collaborative Writing." Stanford HAI, May 25, 2022. https://hai.stanford.edu/news/meet-coauthor-experiment-human-ai-collaborative-writing.

Riedl, Christoph. "How to Use AI to Build Your Company's Collective Intelligence." Harvard Business Review, October 16, 2024. https://hbr.org/2024/10/how-to-use-ai-to-build-your-companys-collective-intelligence.

Riedl, Christoph, and David De Cremer. "AI for Collective Intelligence." Collective Intelligence, April 3, 2025. https://doi.org/10.1177/26339137251328909.

Riedl, Christoph, Young Ji Kim, Pranav Gupta, Thomas W. Malone, and Anita Williams Woolley. "Quantifying Collective Intelligence in Human Groups." Proceedings of the National Academy of Sciences of the United States of America 118, no. 21 (May 25, 2021): e2005737118. https://doi.org/10.1073/pnas.2005737118.

Saleema Amershi, Dan Weld, Mihaela Vorvoreanu, Adam Fourney, Besmira Nushi, Penny Collisson, and others. "Guidelines for Human-AI Interaction." Microsoft Research, May 2019. https://www.microsoft.com/en-us/research/publication/guidelines-for-human-ai-interaction/.

Seeber, Isabella, Gerhard Schwabe, and Jan Marco Leimeister. "Machines as Teammates: A Research Agenda on AI in Team Collaboration." Information & Management 57, no. 2 (2020): 103174. https://doi.org/10.1016/j.im.2019.103174.

Shneiderman, Ben. Human-Centered AI. Oxford: Oxford University Press, 2022.

Simón, Cristina, Elena Revilla, and Maria Jesús Sáenz. "Integrating AI in Organizations for Value Creation through Human-AI Teaming: A Dynamic-Capabilities Approach." Journal of Business Research 182 (September 2024): 114783. https://doi.org/10.1016/j.jbusres.2024.114783.

Smith, Andrew Bruce. "Vibe Comms: Using AI for PR and Communications While Preserving Human Expertise." LinkedIn, March 13, 2025. https://www.linkedin.com/pulse/vibe-comms-using-ai-pr-communications-while-preserving-smith-cmz7e/.

Sterz, Sarah, Katharina Baum, Silas Biewer, Holger Hermanns, Anne Lauber-Rönsberg, Philipp Meinel, and Maximilian Langer. 2024. "On the Quest for Effectiveness in Human Oversight: Interdisciplinary Perspectives." Proceedings of the 2024 ACM Conference on Fairness, Accountability, and Transparency (FAccT' 24), June 3–6, 2024, Rio de Janeiro, Brazil, 2495–2507. https://doi.org/10.1145/3630106.3659051.

Taylor, Jacob. "The Most Important Question When Designing AI." Brookings Institution, May 20, 2024. https://www.brookings.edu/articles/the-most-important-question-when-designing-ai/

United Nations Children's Fund (UNICEF). No Time to Waste – 2024: Update and Call to Urgent Action. New York: UNICEF, October 2024. https://www.unicef.org/media/163336/file/NTTW-2024.pdf.

Westby, Samuel and Christoph Riedl, "Collective Intelligence in Human-AI Teams: A Bayesian Theory of Mind Approach," Proceedings of the 37th AAAI Conference on Artificial Intelligence, https://www.semanticscholar.org/paper/Collective-Intelligence-in-Human-AI-Teams%3A-A-Theory-Westby-Riedl/3e6c44fa97a3871eb67467cfac40fb6cf56f104d.

World Bank Group, "Poverty, Prosperity, and Planet Report: Pathways Out of the Polycrisis," 2024, https://www.worldbank.org/en/publication/poverty-prosperity-and-planet

World Bank Group. "Prioritizing the Poorest and Most Vulnerable in West Africa: Togo's Novissi Platform for Social Protection Uses Machine Learning." World Bank, April 13, 2021. https://www.worldbank.org/en/results/2021/04/13/prioritizing-the-poorest-and-most-vulnerable-in-west-africa-togo-s-novissi-platform-for-social-protection-uses-machine-l.

Zhu, Gaoxia, Vidya Sudarshan, Jason Fok Kow, and Yew Soon Ong. "Human-Generative AI Collaborative Problem Solving: Who Leads and How Students Perceive the Interactions." arXiv preprint arXiv:2405.13048, May 19, 2024. https://arxiv.org/abs/2405.13048.

BROOKINGS

1775 Massachusetts Ave NW
Washington, DC 20036
(202) 797-6000
www.brookings.edu