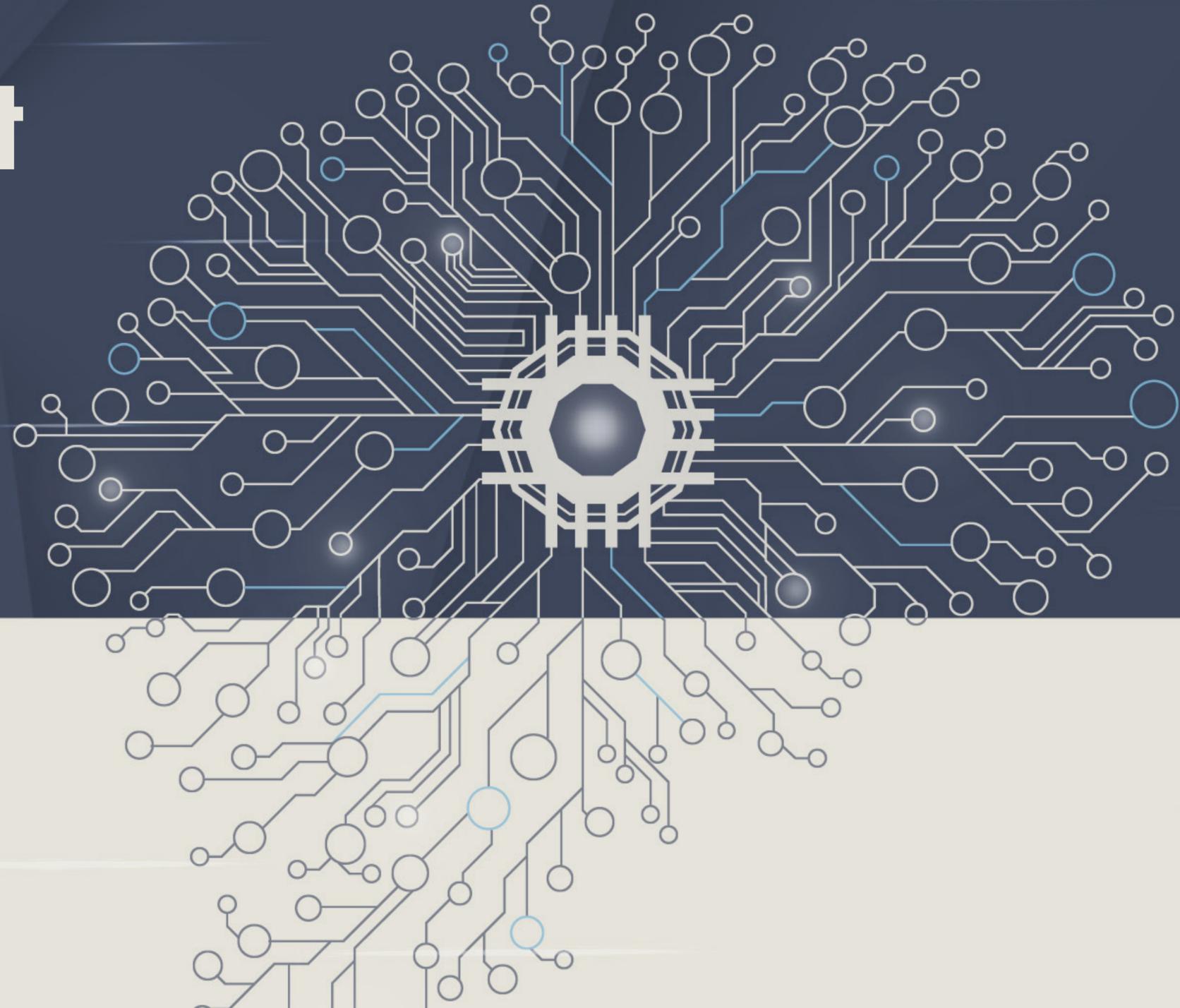


Management GPT

Prototypes of AI Co-Thinkers



February 2024



Table of Contents

- 3** Foreword by Stuart Crainer
- 4** Why ManagementGPT?
- 6** Prototypes of AI Co-Thinkers
- 7** Experimental Approach
- 9** Responsible Leadership AI Co-Thinker
- 20** Platform Business Model AI Co-Thinker
- 31** Multistakeholder Co-Creation AI Co-Thinker
- 42** Lessons Learned And Path Forward

Foreword by Stuart Crainer

The most daunting volume which crosses my desk every year is the annual [Tech Trends Report](#) from the Future Today Institute. It is vast and detailed and, after a while, highly intimidating. Every trend and technology is laid bare—bioengineering, AI, Web 3, the Metaverse, and the changing reality of warehousing. There is so much to consider that it is tempting to run for the hills and cast the future and technology aside.

But, we can't and shouldn't. Once looked at in the cold light of day, technology is an opportunity and, often, a very exciting opportunity. This is especially true of generative AI. But, while generative AI is widely and often loudly discussed in global boardrooms, research by Karim Lakhani of Harvard Business School suggests that less than 10 percent of executives use generative AI tools in their daily work.

Our friends at Capgemini Invent's Management Lab are at the forefront of making sense of the practical opportunities for managers. Indeed, they have been ahead of the game—their work anticipated OpenAI's GPT bot store—and continues to set the pace in describing generative AI's potential to act as a collaborative Co-Thinker rather than as a mere Co-Pilot.

How can AI open up the potential for better decisions, more rounded strategies, and truly transparent leadership? For all involved in management and leadership, ManagementGPT is an important step forward in navigating our way to the opportunities of the future.



*Co-founder of Thinkers50,
Director, Business
Ecosystem Alliance*

Why ManagementGPT?

In June 2023, **Harvard Business Review Italy** published the eBook “[Generative AI for Strategy and Innovation](#)” detailing our experiment with **ChatGPT** on AI’s potential to transform 10 popular management theories and practices.

This was the first publication of its kind, and it got people very interested. It started great conversations with top experts working on using generative AI. At the same time, as expected, fast progress in AI technology for business opened up exciting new opportunities.

Starting from our experiment, many have asked us – **how can we make AI’s potential real in management?**

Our vision is **ManagementGPT**. Think of it as having a **Co-Thinker**, well-versed in a variety of management practices, supporting managers in concrete applications to their business.

ManagementGPT has the potential to make **management expertise more accessible** to all managers, irrespective of their level, power, education, or geography. Forget a past where innovative methods and practices were reserved for a privileged few in ivory towers.

To make ManagementGPT a reality, there is a gap to fill. Today, the performance of pre-trained, open, large foundation models in relation to management theories suffers from the limited availability of specific context and related methodological prompts.

That’s why we decided, as co-authors, to move forward with our experimentation to fill this gap and join forces with top experts, who are part of the unique **Thinkers50 community**, to develop AI Co-Thinker prototypes. The values guiding our journey are curiosity, collaboration, discovery, and the pursuit of making good management achievable for everyone.

The Management Lab by Capgemini Invent

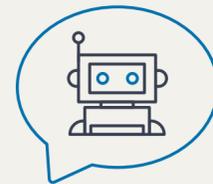
Beyond AI Assistants, Towards AI Co-Thinkers

TRADITIONAL SEARCH ENGINE



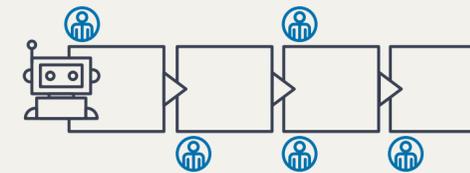
- ▶ Search results pointing to links

AI ASSISTANT



- ▶ Answers to queries
- ▶ Completion of simple tasks

AI CO-THINKER



- ▶ In-depth conversations
- ▶ Co-create solutions to complex tasks

Prototypes of AI Co-Thinkers

An AI Co-Thinker is a way to leverage pre-trained, open, large foundation models to trigger valuable **human-machine conversations** on complex topics and trade-offs. To do so, general models should be enhanced with **specialized context setting, sound prompt sequences, and proper guardrails**.

Starting from the 10 management theories and practices covered in our [HBR Italy eBook](#), we selected **three concrete use cases** addressing relevant management needs (spanning strategy, innovation, and organizational culture), with the potential to be expanded for **meaningful impact**.

AI CO-THINKER ON RESPONSIBLE LEADERSHIP

GOAL:

Help single leaders translate Responsible Leadership values into character features and behaviors and select the right metrics to track behavioral change.

OUTPUT:

Human selection of concrete actions to start/stop doing and related metrics.

TEAM:



Elisa Farri

Gabriele Rosani

Corey Crossan

Edward Brooks

AI CO-THINKER ON PLATFORM BUSINESS MODELS

GOAL:

Help business teams prioritize the most relevant network effects, design concrete actions, and unlock metrics to boost them.

OUTPUT:

Ranking of network effects, designed actions, and setting of guardrails for responsible application.

TEAM:



Paolo Cervini

Marshall Van Alstyne

AI CO-THINKER ON MULTISTAKEHOLDER CO-CREATION

GOAL:

Help organizations and institutions articulate a problem to be tackled cooperatively, identify the right stakeholders, and clarify their needs and expectations.

OUTPUT:

Well-framed problem statement meeting guardrails and criteria for cooperative advantage.

TEAM:



Elisa Farri

Gabriele Rosani

Leon Prieto

Simone Phipps

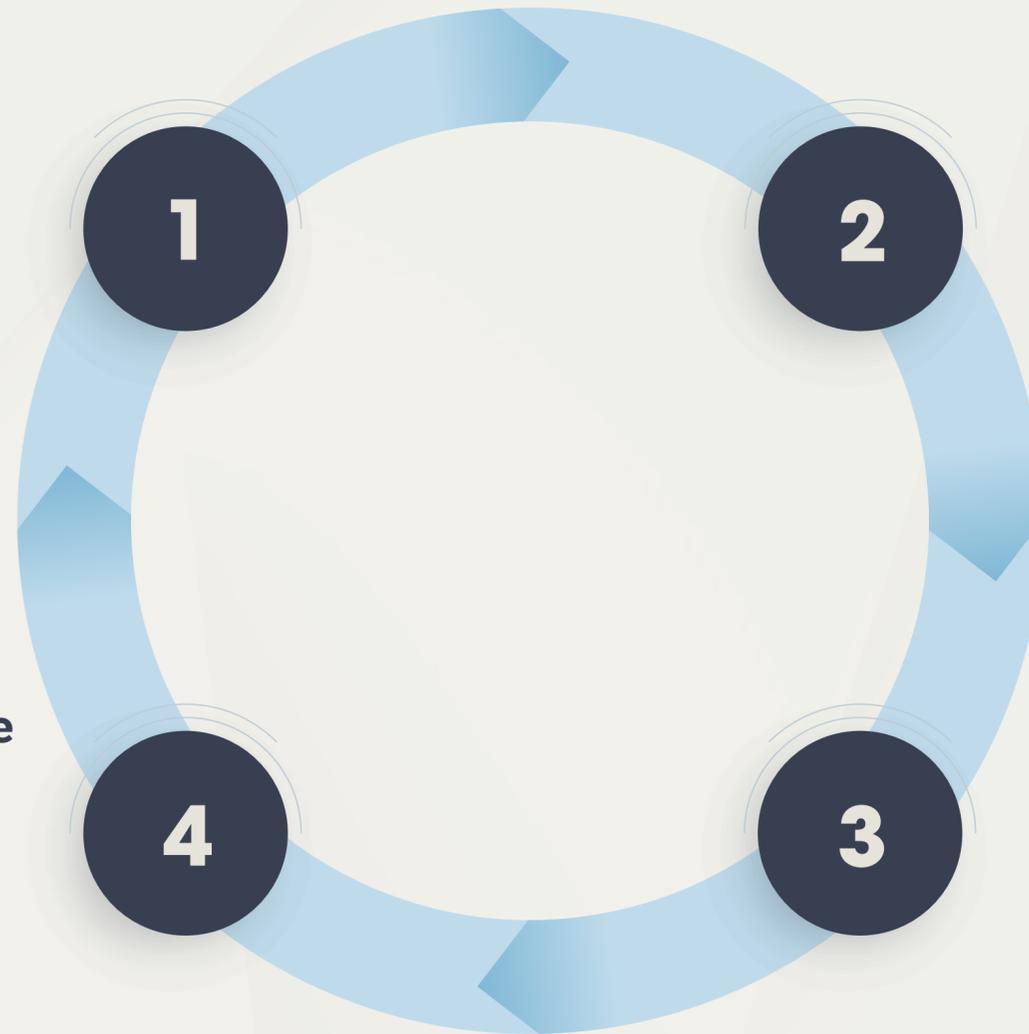
Experimental Approach

1 Identification of managerial use cases

- ▶ Relevance of the managerial need
- ▶ Feasibility
- ▶ Scalability

4 Evaluation of the three scenarios based on predefined criteria

- ▶ Speed
- ▶ Emotional engagement
- ▶ Interaction
- ▶ Output quality



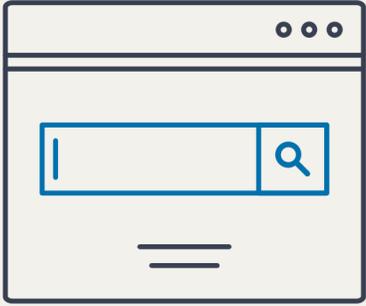
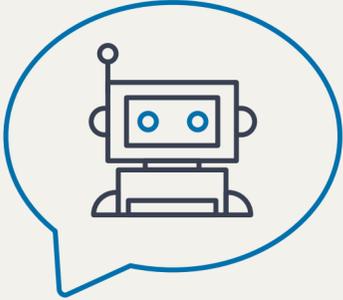
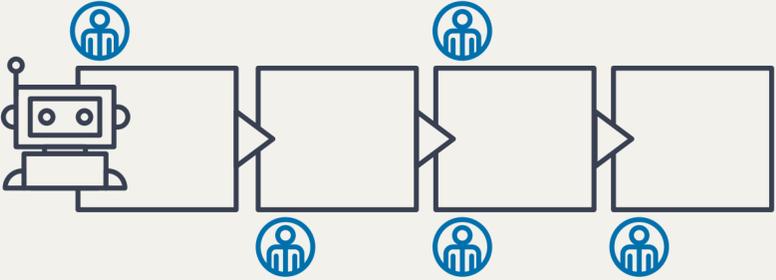
2 Definition of three scenarios for comparative evaluation

- ▶ Traditional search engine
- ▶ AI Assistant
- ▶ AI Co-Thinker

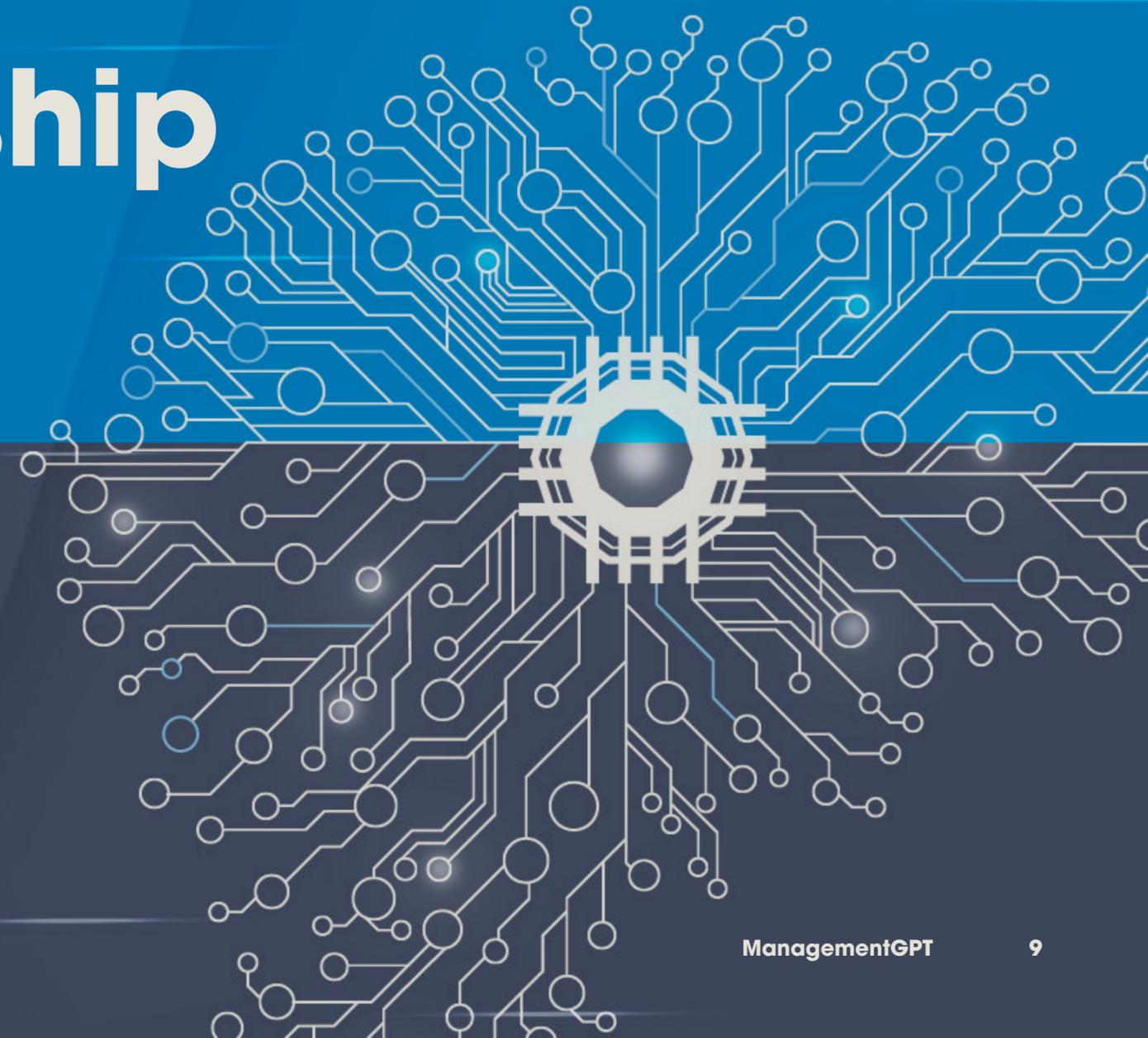
3 Development of AI Co-Thinker prototype

- ▶ Articulation of the sequence of the human-machine interaction
- ▶ Ad hoc content injections
- ▶ Definition of output format
- ▶ Testing and fine-tuning of the sequence

Human-Machine Scenarios Under Evaluation

| | TRADITIONAL SEARCH ENGINE | AI ASSISTANT | AI CO-THINKER |
|------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| |  |  |  |
| Starting point: | <ul style="list-style-type: none"> ▶ Human types a search query | <ul style="list-style-type: none"> ▶ Human types a question or request | <ul style="list-style-type: none"> ▶ AI triggers the conversation following a sequence of pre-defined steps based on authoritative methodologies and experts |
| Approach: | <ul style="list-style-type: none"> ▶ Keywords | <ul style="list-style-type: none"> ▶ Spontaneous and improvisational Q&A | <ul style="list-style-type: none"> ▶ Structured dialogue between human and AI, along the sequence of steps |
| Output: | <ul style="list-style-type: none"> ▶ Search engine generates a ranked list | <ul style="list-style-type: none"> ▶ AI provides the answer | <ul style="list-style-type: none"> ▶ Human and AI co-create the output |

Responsible Leadership AI Co-Thinker



Overview

WHY THIS CO-THINKER?

Organizations urgently need responsible leaders to accelerate sustainability goals while leveraging new technologies in an ethical and responsible manner. But managers often struggle to translate the values of responsible leadership into concrete day-to-day actions.

WITH WHOM WAS THE CO-THINKER DEVELOPED?

Edward Brooks: Executive Director of [The Oxford Character Project](#). Co-founder of the Oxford Global Leadership Initiative.

Corey Crossan: Research and teaching fellow at The Oxford Character Project. Co-founder of Virtuosity Character, a mobile App for character-based leadership development.

WHAT THE CO-THINKER DOES?

Provides methodological guidance to managers who want to make a personal reflection translating selected values in personalized character features and habits.

Output: Set of concrete actions and related metrics to monitor progress.

WHO TESTED THE CO-THINKER?

Selected practitioners and HR specialists.

”

At the Oxford Character Project, our focus is on the personal qualities that enable leaders to consistently be at their best, achieve organisational goals, and lead with purpose. At its core, responsible leadership is powered by virtues, intentionally developed excellences of character that are the moral muscles of good leadership.

There is concern that Gen AI will have a de-humanising effect on organisations, and it is important to underline that Gen AI cannot replace the human development needed for responsible leadership. What we are thinking about is how AI can help leaders by prompting ways of thinking and acting that are in line with the best of what it means to be human.

Many leaders want to be more resilient, more courageous, to think with curiosity and creativity, and to act with integrity and empathy. But it is hard. Sometimes the environment can work against these important aspects of character. We are working to develop Gen AI tools to nudge and support in a positive direction, to help people lead in line with their values and purpose, even in difficult and complex situations.



Edward Brooks

Executive Director of the Oxford Character Project. Co-founder of the Oxford Global Leadership Initiative

”

What has surprised me about this process is the power to embed expertise into a virtual environment that truly simulates a conversation to facilitate responsible leadership development.

And this is exciting because it democratizes responsible leadership, making it much more accessible!

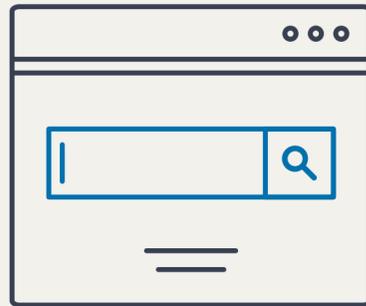


Corey Crossan

Research and teaching fellow at The Oxford Character Project. Co-founder of Virtuosity Character, a mobile App for character-based leadership development.

Human-Machine Scenarios Under Evaluation

TRADITIONAL SEARCH ENGINE



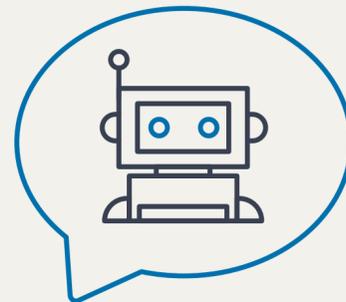
Approach:

- ▶ Responsible Leadership related keywords

Tested search engines:

- ▶ Google Chrome

AI ASSISTANT



Approach:

- ▶ Simple question

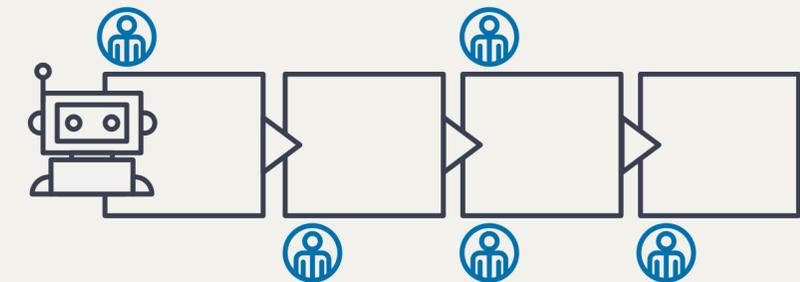
Examples:

- ▶ What is Responsible Leadership?
- ▶ What are examples of Responsible Leadership behaviors?
- ▶ What are metrics to track progress on Responsible Leadership?

Tested AI models:

- ▶ OpenAI's ChatGPT-3.5 and 4, Anthropic's Claude2, Google's Bard

AI CO-THINKER



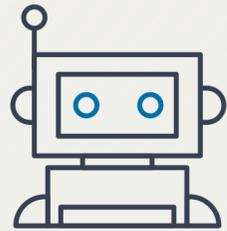
Approach:

- ▶ Structured dialogue to foster an in-depth personal reflection on Responsible Leadership, supported by the latest research.

Tested AI models:

- ▶ Ad-hoc GPT-3.5T Bot built on Microsoft Azure

Responsible Leadership AI Co-Thinker: Structured Dialogue



INPUT:

Select a value from the company manifesto

Elaborate on the chosen value and its importance to the human



Reflect on the proposed features (how the features support the chosen value?)



INPUT:

Select the character feature to be prioritized and further developed

Suggest **character features** to help bring the chosen value into action



Reflect and comment on the proposed bad habits

Suggest **bad habits** to drop



Provide contextual information to personalize actions
Select 1 action to prioritize / focus on
Reflect on the benefits that the chosen action can bring (personal and organizational level)

Suggest **positive actions** to start doing



Reflect and comment on the proposed metrics
Discard those that are not implementable
Can ask to suggest other metrics
Set personal targets

Suggest **metrics** to track progress



Reflect on potential barriers to implementation

Summarize actions and metrics in a visual table.
Share **implementation tips & and alerts**

Excerpts From Real Conversations

SIMULATION CASE: Executive of a large organization interested in having a personal reflection on a specific company value: "Trust."



INPUT:
Select a value from the company manifesto

INPUT:
Select the character feature to be prioritized and further developed



Reflect on the proposed features (how the features support the chosen value?)

Reflect and comment on the proposed bad habits

Provide contextual information to personalize actions
Select 1 action to prioritize / focus on
Reflect on the benefits that the chosen action can bring (personal and organizational level)

Reflect and comment on the proposed metrics
Discard those that are not implementable
Can ask to suggest other metrics
Set personal targets

Reflect on potential barriers to implementation

BASED ON THE CHOSEN CHARACTER FEATURE, THE AI CO-THINKER HELPS REFLECT ON COMMON BAD HABITS



Thank you for choosing consistency. Developing consistency in your actions and decisions is a powerful way to strengthen trust. It ensures that you're perceived as reliable and dependable, which is crucial in any professional setting.

When trying to cultivate character, we can focus on changing habitual patterns that better support the character feature. When we try to do this, we are often challenged with dropping bad habits and beginning better habits. Let's begin by exploring bad habits vis-a-vis your colleagues, as well as other internal and external stakeholders that you can focus on dropping.

Here are 4 habits that might inhibit your ability to embody consistency:

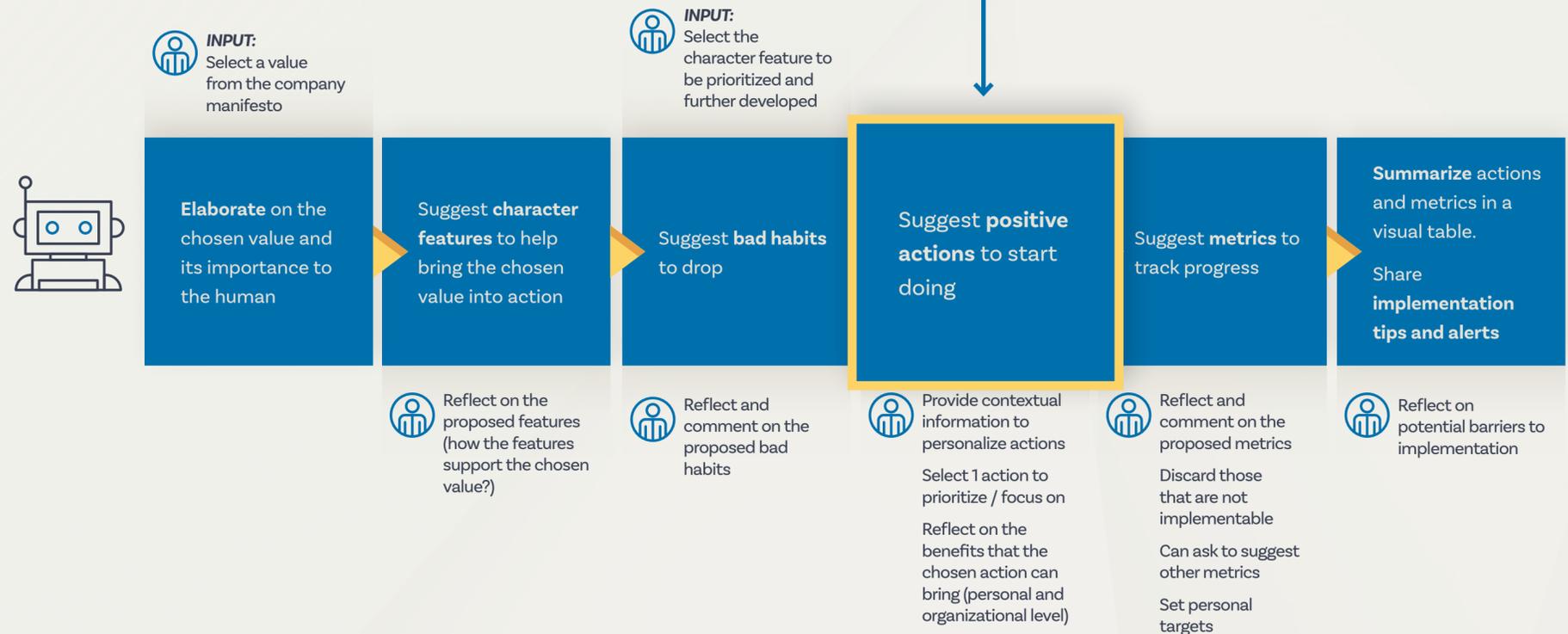
1. **Procrastination:** Delaying tasks or decisions can undermine consistency.
2. **Changing Plans Frequently:** Frequently altering decisions or plans can lead to a perception of unpredictability.
3. **Inconsistent Communication:** Irregular or inconsistent messaging can create confusion and mistrust.
4. **Failing to Follow Through:** Not following up on commitments or promises can significantly erode trust.

Pause and reflect on these habits. Which bad habit would you like to stop? Why?



Excerpts From Real Conversations

SIMULATION CASE: Executive of a large organization interested in having a personal reflection on a specific company value: "Trust."



THE AI CO-THINKER AND THE EXECUTIVE EXAMINE THE BENEFITS OF THE CHOSEN POSITIVE ACTION



Committing to regular feedback for improved consistency can indeed lead to enhanced employee motivation and engagement. Here's a deeper look at these benefits:

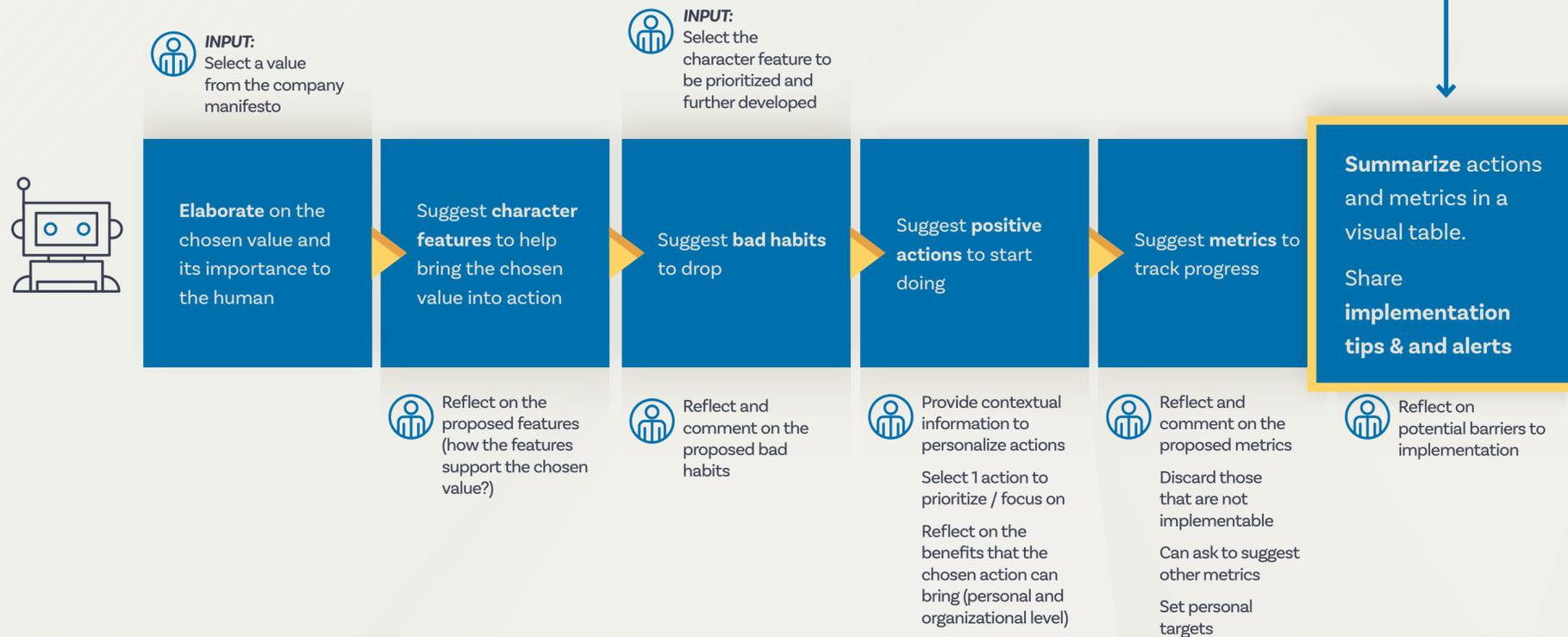
- 1. Personal Growth and Self-Awareness:** Regular feedback fosters a deeper understanding of your strengths and areas for improvement. This self-awareness is key to personal development, leading to a more motivated and engaged approach to your work.
- 2. Enhanced Performance:** With consistent feedback, you're likely to see an improvement in your task management and decision-making processes. This can lead to better performance outcomes, further motivating you.
- 3. Organizational Trust and Reliability:** As you become more consistent, your colleagues and superiors will likely view you as more reliable. This trust can enhance the overall team dynamic and create a more positive work environment.
- 4. Increased Engagement:** When you're actively working on self-improvement and seeing tangible results, your engagement with your work and the organization as a whole is likely to increase. This can also inspire others to pursue their personal development.

Are there other benefits you might have overlooked or missed? How does this reflection resonate with your expectations?



Excerpts From Real Conversations

SIMULATION CASE: Executive of a large organization interested in having a personal reflection on a specific company value: “Trust.”



THE AI CO-THINKER HIGHLIGHTS POTENTIAL INHIBITORS THAT ARE COMMONLY OVERLOOKED



It's great to hear that you don't anticipate any significant inhibitors to improving consistency and implementing regular feedback in your organization. This suggests a supportive work environment, which is an excellent foundation for personal and professional growth.

However, it's always good to stay aware and proactive. Even in the most supportive environments, unexpected challenges can arise. Here are a few potential inhibitors that are commonly overlooked:

- 1. Busy Schedules:** Even in supportive environments, the demands of day-to-day work can sometimes make it challenging to find time for regular feedback sessions or to focus on personal development goals.
- 2. Change Resistance:** Sometimes, even when an organization is generally supportive, individuals or teams may resist changes in routine or approach, especially if these changes affect their work or established habits.
- 3. Limited Immediate Feedback:** In some cases, there might be a delay in receiving feedback, which can slow down the process of implementing changes and seeing improvements.
- 4. Complacency:** In a comfortable and supportive environment, there's sometimes a risk of becoming complacent and not pushing oneself to continuously improve.

While these might not currently be issues in your workplace, being mindful of them can help you stay proactive in your personal development journey.



Responsible Leadership: Comparative Evaluation

| | TRADITIONAL SEARCH | AI ASSISTANT* | AI CO-THINKER* |
|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Speed |  |  |  |
| Emotional engagement <i>(«I got into the flow» ; «I got bored» ; «It was wow»)</i> |  |  |  |
| Interaction <i>(«It was smooth and clear» ; «It guided well» ; «It was value-added dilalogue»)</i> |  |  |  |
| Output quality <i>(«It was excellent» ; «It was deep» ; «It was average» ; «It was unsatisfactory»)</i> |  |  |  |

Navigating the list of reliable sources is complex. More info findable on behaviors, less on metrics.

Fast and engaging. However, limited interaction if human lacks expertise for a deeper Q&A. Output on behaviors is satisfactory, but on metrics is weak.

In-depth and complex human reflection. Well-guided and longer conversation. Excellent and reliable output.

*Simulations without injection of confidential data

What We Heard



This prototype could be a game-changer, helping organizations offer personalized coaching at scale.

HR Advisor



The dialogue with AI allowed me to truly explore what 'trust' means to me as a leader, and how I can embrace it concretely. I felt engaged during the conversation with AI.

Executive



It felt like a neutral space where I could freely express my thoughts and feelings without any fear of judgment.

Middle Manager



While there's no replacing the human touch and the nuanced understanding that comes with years of coaching experience, I acknowledge the value such a Co-Thinker can bring, especially in terms of accessibility.

Coach

Responsible Leadership AI Co-Thinker: Key Takeaways

Perception of Neutral Interface

Unlike in human-to-human conversations, where there might be fear of judgement and cognitive biases, the machine is perceived as neutral, not judging, favoring a condition of higher psychological safety. Testers appreciated the feeling of ‘being comfortable admitting gaps, issues, and challenges.’

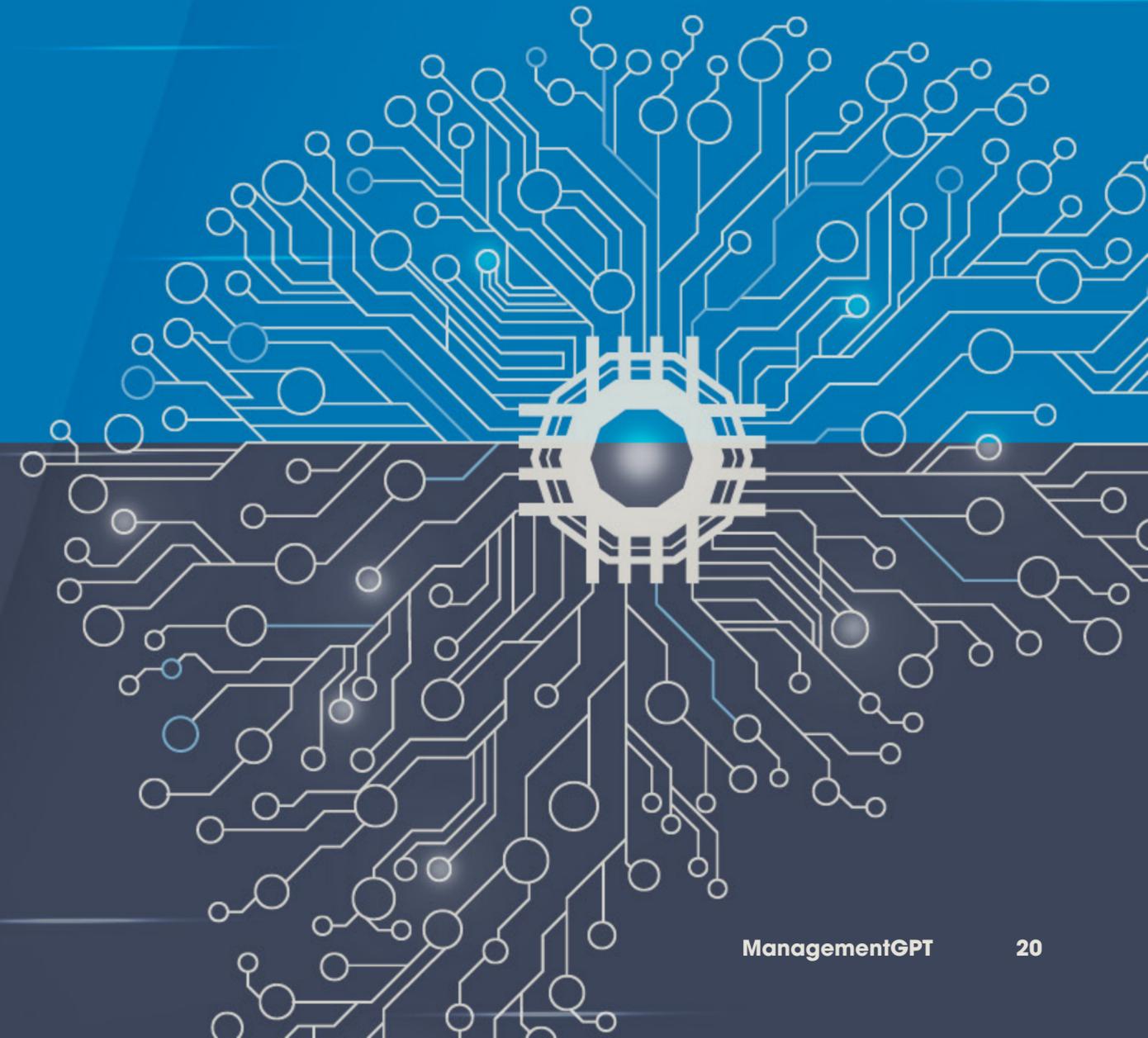
Heavy methodological curation for high-quality output

To offer robust, trustworthy guidance, the AI Co-Thinker needs injected understanding of the Responsible Leadership theory. Without this, tendencies persist to conflate concepts (for instance, it may confuse values with character features) and provide superficial or generic metrics (not always applicable in a corporate environment).

The Output-Flow Trade-off

High-quality output requires not only heavy curation but also an active human participation in the complex, structured conversation. This may slow down the conversation rhythm, requiring the human to pause, reflect, type more detailed answers, which can decrease the sense of “flow” and emotional engagement.

Platform Business Model AI Co-Thinker



Overview

WHY THIS CO-THINKER?

‘Network effects’ are a powerful driver of success in the platform economy. However, managers often struggle to address the complex issue of identifying, leveraging, and measuring network effects.

Even management thinkers sometimes under-appreciate the power of designing network effects.

WITH WHOM WAS THE CO-THINKER DEVELOPED?

Marshall Van Alstyne: one of the world’s foremost experts on network business models and coauthor of the international bestseller, *Platform Revolution*.

Joint project with Boston University Questrom School of Business: Student Team on Network Effect Measurement.

WHAT THE CO-THINKER DOES?

Help identify and prioritize key network effects and related actions and metrics, considering also the associated risks of negative externalities.

Output: Summary table with network effects, actions, metrics, and mitigation actions.

WHO TESTED THE CO-THINKER?

Capgemini Invent’s experts on Platform and Ecosystem, engaged in the Capgemini and MIT initiative on B2B Platforms.

Selected practitioners, experts, and researchers participating in the [Platform Matching Market initiative](#) organized by Boston University Questrom School of Business.



What has surprised me is the breadth of the recommendations from the AI Co-Thinker on such a complex topic like network effects.

What I have learned is that while the breadth is impressive, the depth of the analysis in each area is still limited. This highlights the continued challenges of developing AI that can provide truly deep insights across a range of topics.

Regardless, based on this first experiment, the human-machine interaction shows promise for future co-thinking between humans and AI.

I'm also happy to see that, if well guided, the AI Co-Thinker can take into consideration social responsibility in its recommendations.

Overall, this project is generating a lot of interest among the Platform Symposium Matching Market researchers and practitioners, which suggests the idea and tool are going in the right direction.



Marshall Van Alstyne

Professor at Boston University and a Digital Fellow at MIT

Human-Machine Scenarios Under Evaluation

TRADITIONAL SEARCH ENGINE



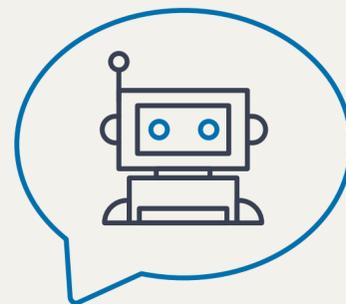
Approach:

- ▶ Network effects related Keywords

Tested search engines:

- ▶ Google Chrome

AI ASSISTANT



Approach:

- ▶ Simple question

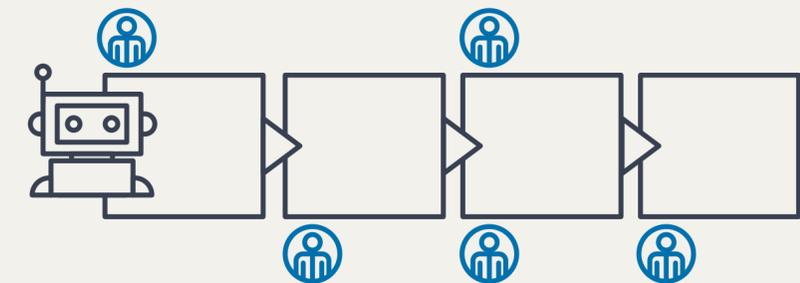
Examples:

- ▶ What are Network Effects?
- ▶ How to measure Network Effects?
- ▶ What are the most relevant Network Effects for platform XYZ?
- ▶ How to design Network Effects and add them to the Business Model?

Tested AI models:

- ▶ OpenAI's ChatGPT-3.5 and 4, Anthropic's Claude2, Google's Bard

AI CO-THINKER



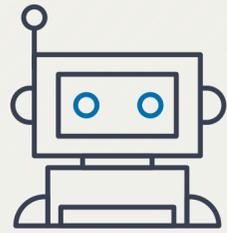
Approach:

- ▶ Structured dialogue to identify key network effects and related actions and metrics, considering also the associated risks of negative externalities.

Tested AI models:

- ▶ OpenAI's ChatGPT; Ad-hoc GPT-4 Bot built on Microsoft Azure

Platform Business Model AI Co-Thinker: Structured Dialogue



INPUT:
Provide business details, inputs on maturity, goals, resources (optional: docs upload)

Contextualize and provide initial reflections and **hypotheses** on platform dynamics



Validate initial reflections and hypotheses

Identify and describe 5 **network effects** and their rationale. **Rank** them based on a set of criteria



Provide feedbacks and comments
Can provide additional contents (e.g. elements that AI could not know)



INPUT:
Select Top 3 network effects aligned with business goals

Identify and discuss **actions and metrics** for each selected network effect



Discuss proposals
Add missing points
Can ask for more creativity, more details or specific examples

Summarize network effects, actions, metrics in a **visual table**



Review and validate
Compare initial version with the one integrating social responsibility considerations

Incorporate in the summary table

Identify potential **ethics and social responsibility** issues and risks



Review, ask for clarifications
Add missing points
Validate

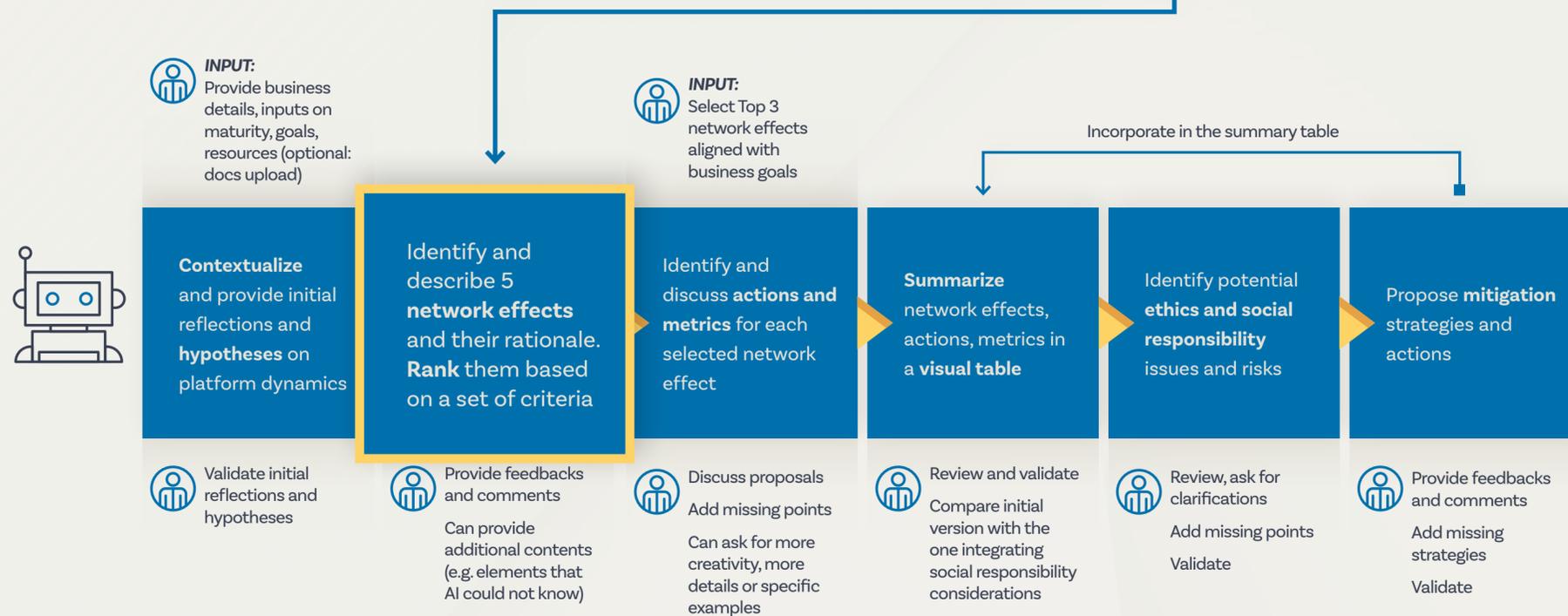
Propose **mitigation** strategies and actions



Provide feedbacks and comments
Add missing strategies
Validate

Excerpts From Real Conversations

SIMULATION CASE: E-Mobility platform with three primary sides (Users, Mobility Providers, and Local Service Providers)



THE AI CO-THINKER IDENTIFIES NETWORK EFFECTS

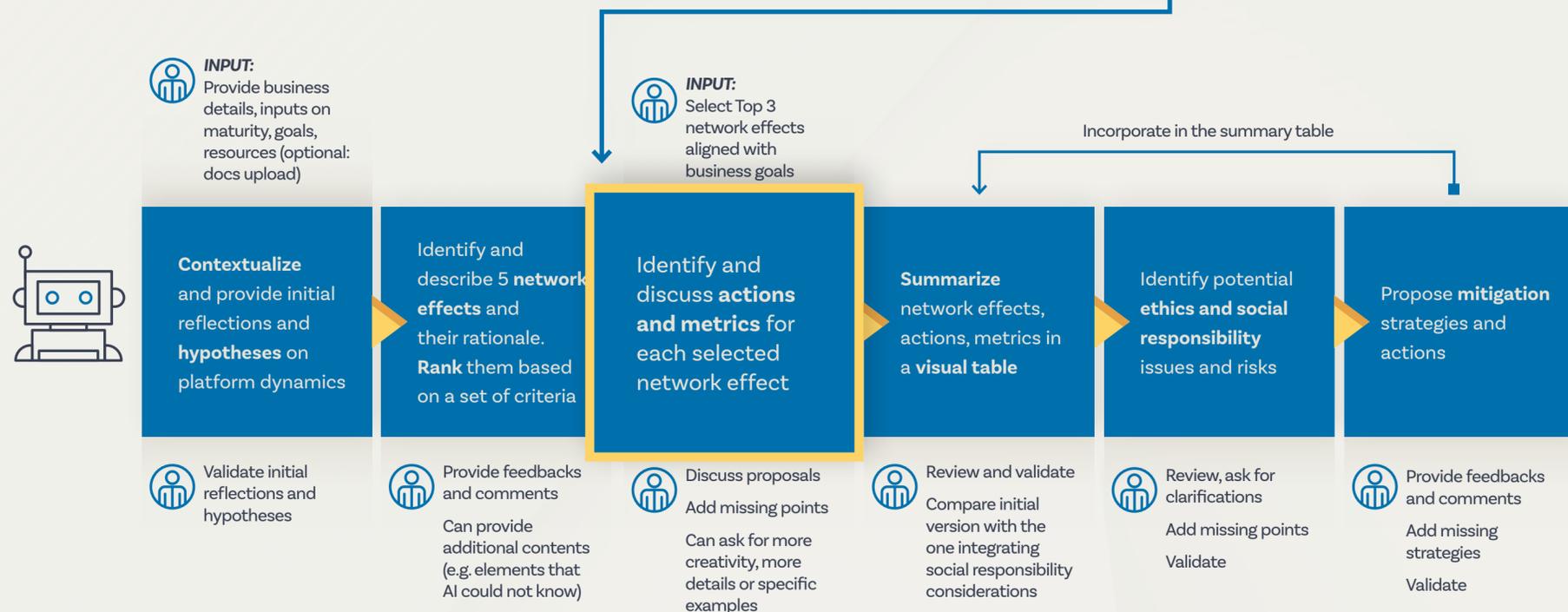


- Cross-Side Network Effect:** As more mobility and local service providers join your platform, it becomes more valuable to users (travelers) due to a wider range of options. Conversely, as more users join, it becomes more attractive for providers due to a larger potential customer base.
- Same-Side Network Effect:** Within each group (users, mobility providers, local service providers), increased participation enhances the value for members of the same group. For instance, more users lead to better crowd-sourced insights and reviews, enhancing the experience for other users.
- Data Network Effect:** The more users and providers interact on your platform, the more data you gather. This data can be used to improve user experiences, customize offerings, optimize energy management, and enhance operational efficiencies.
- Local Network Effect:** In specific geographic locations, as more local providers (like hotels, restaurants) join, the value of your platform increases for users in or traveling to those areas. This effect can be pivotal for targeting specific tourist destinations or urban centers.
- Integrated Network Effect:** As you integrate more services (like energy management systems and unified billing), the platform becomes more convenient and indispensable for users, which in turn attracts more providers due to increased user reliance on your platform.



Excerpts From Real Conversations

SIMULATION CASE: E-Mobility platform with three primary sides (Users, Mobility Providers, and Local Service Providers)



THE AI CO-THINKER IDENTIFIES STRATEGIES AND ACTIONS (E.G., LOCAL NETWORK EFFECTS)



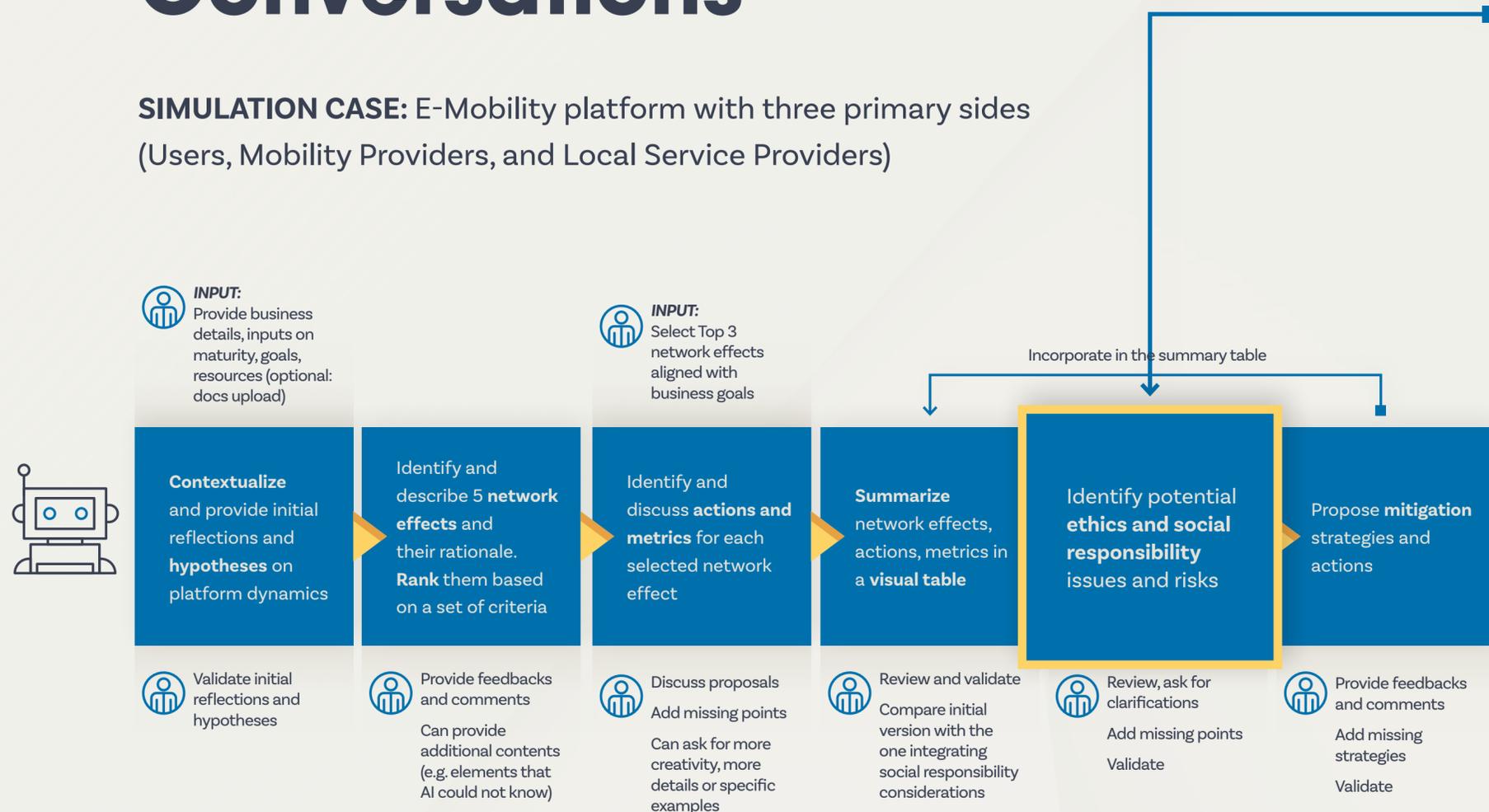
Local Network Effect Strategies

- 1. Targeted Geographic Expansion:** Focus on expanding the network in specific geographic locations, especially tourist hotspots or urban centers with high mobility potential. Tailor services and provider options to the unique characteristics and needs of these areas.
- 2. Local Partnerships and Community Engagement:** Establish partnerships with local businesses and community organizations. This could include collaborative promotions, local events, and integrating local cultural experiences into the platform offerings.
- 3. Localized Marketing and User Feedback Loops:** Implement marketing strategies tailored to local markets, emphasizing the unique aspects of local services. Additionally, establish feedback loops where local users and visitors can suggest improvements or new local services they'd like to see.



Excerpts From Real Conversations

SIMULATION CASE: E-Mobility platform with three primary sides (Users, Mobility Providers, and Local Service Providers)



THE AI CO-THINKER IDENTIFIES SOCIAL RESPONSIBILITY ISSUES AND RISKS RELATED TO THE SELECTED NETWORK EFFECTS



Potential Social Responsibility Issues

1. Data Network Effect:

- ▶ **User Privacy and Data Security:** The extensive collection and analysis of user data might raise concerns about privacy and data security.
- ▶ **Bias in AI and Predictive Models:** There's a risk that AI algorithms could develop biases, leading to unfair treatment or discrimination of certain user groups.

2. Cross-Side Network Effect:

- ▶ **Market Domination and Small Provider Marginalization:** As the platform grows, there might be a risk of dominating the market, potentially marginalizing smaller providers.
- ▶ **Over-Reliance on Platform:** Users and providers might become overly dependent on the platform, which could reduce market competition and choice.

3. Local Network Effect:

- ▶ **Impact on Local Communities and Culture:** Rapid expansion in certain areas might lead to cultural homogenization or negatively impact local communities.
- ▶ **Environmental Concerns:** Increasing tourism and mobility services in targeted areas might lead to environmental challenges, such as increased pollution or resource depletion.



Platform Business Model: Comparative Evaluation

| | TRADITIONAL SEARCH | AI ASSISTANT* | AI CO-THINKER* |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Speed |  |  |  |
| Emotional engagement («I got into the flow» ; «I got bored» ; «It was wow») |  |  |  |
| Interaction («It was smooth and clear» ; «It guided well» ; «It was value-added dilalogue») |  |  |  |
| Output quality («It was excellent» ; «It was deep» ; «It was average» ; «It was unsatisfactory») |  |  |  |

Sources available online lack clarity and actionability (either too specific and academic or too generic and simplistic).

AI shows a good command of the network effect theory. However, unlocking value depends on the proficiency of the human. Low proficiency determines low interaction, engagement, and output.

Well-guided strategic conversation driving interaction and engagement. Output good, especially for breadth but not yet great in terms of depth.

*Simulations without injection of confidential data

What We Heard



Looks very interesting and useful, also for industrial cases. A great tool for businesses trying to implement platform products that require network effect to grow. Very relevant the different degree of creativity that can be activated.

Todd Boyd,
CEO Tacit.io



The conversation is very engaging. The machine understands the context and asks the right questions. The outputs (the proposed network and corresponding actions) are relevant, some very impressive.

Shujing Sun,
Naveen Jindal School of Management, UT Dallas



I am very impressed! The Co-Thinker differs from a virtual assistant because it operates like my coauthor (colleague) who is able to connect our previous discussion with the current issue. In other words, the conversation with the Co-Thinker is very interactive and intelligent.

Bobby Zhou,
University of Maryland



This prototype is incredible. The guided flow has a smooth design. I really liked when it asked me questions regarding additional information or my feedback. The information by the Machine is of good quality, considering the complexity of “network effect” concepts. The content by GPT made me think deeper. I will come back to it and test it out multiple times.

Gang Wang,
University of Delaware



A real value-added conversation. The prototype flexibility enables to move from high-level strategic insights to detailed operational inputs.

The interactions turned out to be so valuable (also beyond network effects) that we partially deviated from the standard process.

Luciano Pezzotta,
Blue Ocean Strategist and Deputy Chairman of Eurocham Malaysia

Platform Business Model AI Co-Thinker: Key Takeaways

Breadth trumps depth

- ▶ While the AI Co-Thinker proved excellent in providing content breadth, there is room for improvement when it comes to depth (even when a detailed context and background is provided).
- ▶ Need to challenge the conversation, ask for additional inputs.
- ▶ To achieve richer depth, need to involve human experts (internal and external, such as academics, e.g., to account for the backward induction of strategic interactions).
- ▶ Depth is expected to improve when real company data will be processed by the AI Co-Thinker.

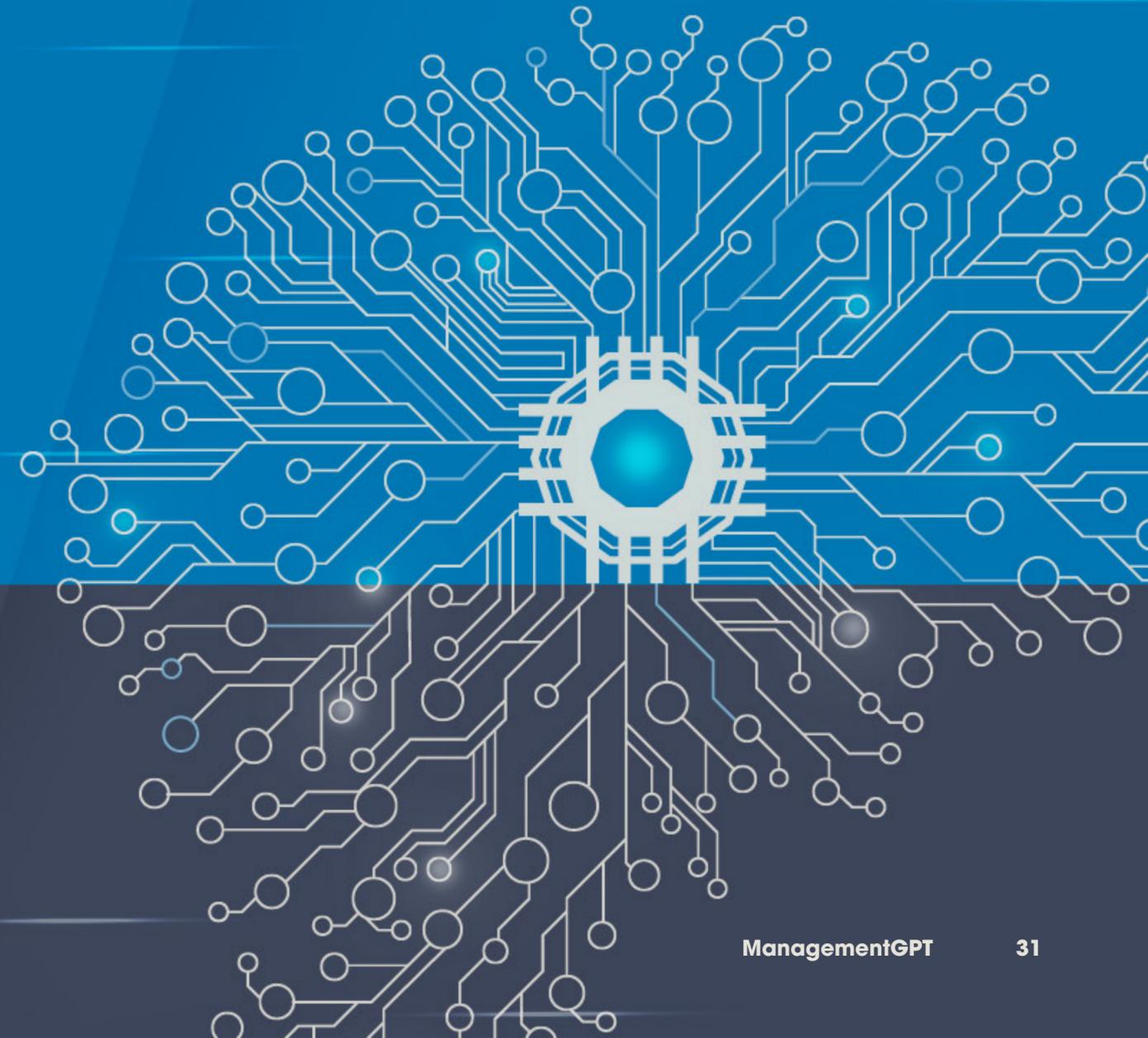
Content injection overload might create AI bias

- ▶ Consider that, thanks to the pre-training, the AI Co-Thinker already has a very strong knowledge of Platform topics.
- ▶ Paradoxically, an excess of prompted information and guidelines seem to create a “noise effect” and “content bias” in AI Co-Thinker responses.

B2B vs. B2C performance

- ▶ The machine tends to perform better on B2C cases of application, which reflects the availability of platform knowledge.
- ▶ In case of B2B platforms, the human needs to actively challenge the AI Co-Thinker to refocus considerations on B2B scenarios, also providing B2B specific examples, details, and data.

Multistakeholder Co-Creation AI Co-Thinker



Overview

WHY THIS CO-THINKER?

Organizations frequently overlook the views and needs of other stakeholders when tackling complex issues that require broad cooperation.

WITH WHOM WAS THE CO-THINKER DEVELOPED?

Two champions of the power of cooperative advantage to solve complex business and societal issues:

Leon Prieto is the Director of the Center for Social Innovation and Sustainable Entrepreneurship at the College of Business, Clayton State University.

Simone T.A. Phipps is a professor of management at the School of Business, Middle Georgia State University.

WHAT THE CO-THINKER DOES?

Help in acknowledging the viewpoints of various stakeholders for issues needing cooperation from many parties, such as sustainability challenges.

WHO TESTED THE CO-THINKER?

Capgemini Public Sector specialists.

Researchers and students from Clayton State University .

Selected management practitioners with experience in co-creation programs with multiple stakeholders.



The AI Co-Thinker redefines problem-solving in the realm of management. It's not just about finding answers, but about crafting questions that lead to cooperative advantage. It's where dialogue, understanding, and stakeholder alignment converge to create a fertile ground for sustainable solutions.



Leon Prieto

Professor of Management at the College of Business at Clayton State University



A strength of the Multistakeholder Co-creation AI Co-Thinker is empowerment via democratization.

It has the potential to allow everyone access to needed information to make responsible management decisions that reflect attention to care and community, dialogue, and consensus-building.

Faced with complexity and dynamism, it facilitates engaging co-creation of questions and answers to help managers develop clarity about problems and their contexts, so organizations can better tackle challenges and find innovative solutions that are grounded in the principles of cooperation and reciprocity.

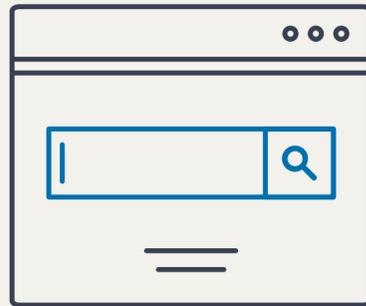


Simone Phipps

Professor of Management at the School of Business, Middle Georgia State University

Human-Machine Scenarios Under Evaluation

TRADITIONAL SEARCH ENGINE



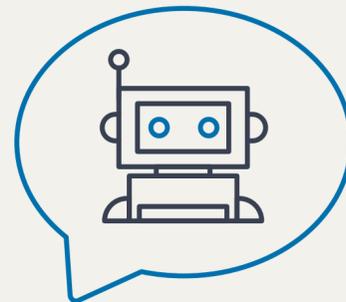
Approach:

- ▶ Keywords related to the specific problem in scope

Tested search engines:

- ▶ Google Chrome

AI ASSISTANT



Approach:

- ▶ Simple question

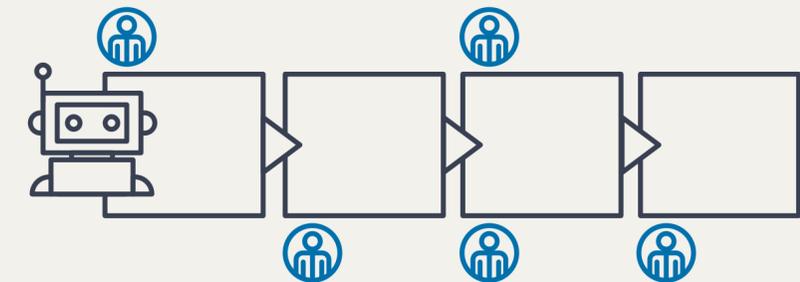
Examples:

- ▶ How to frame the problem to include all the relevant stakeholders?
- ▶ How other organizations tackled similar problems?
- ▶ What are key stakeholders involved in similar problems?

Tested AI models:

- ▶ OpenAI's ChatGPT-3.5 and 4, Anthropic's Claude2, Google's Bard

AI CO-THINKER



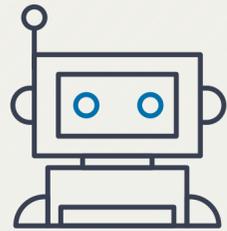
Approach:

- ▶ Structured dialogue to assess every stakeholder's concerns, find ways to reduce risks, and ensure the problem is approached more collaboratively.

Tested AI models:

- ▶ Ad-hoc GPT-4 Bot built on Microsoft Azure

Multistakeholder Co-creation AI Co-Thinker: Structured Dialogue



 **INPUT:**
Provide initial
problem statement

Help **frame** the
problem (holistic
vs. granular) and
contextualize

 Reflect on problem
scope / granularity

 **INPUT:**
Provide initial list of
stakeholders

Articulate the
list of relevant
stakeholders and
propose missing
ones

 Agree / Disagree
with the added
stakeholders

Add contextual
specifications
on selected
stakeholders

Refine the list

Articulate each
stakeholder's
potential **needs**,
pain points, and
how success looks

 Deepen the
granularity of the
analysis based on
specific knowledge
and examples

Discard needs or
pain points that are
not relevant

Add missing needs
or pain points

Identify potential
red flags and
related mitigation
actions

 Reflect and
comment on
the proposed
mitigation actions

Prioritize/
Deprioritize based
on the actual
context

Add missing red
flags, incl. related
mitigation actions

Evaluate the
problem against
predefined set
of **Cooperative
criteria**

 Reflect on
evaluation

Address unmet
criteria

Derive implications
on problem framing
revision

Summarize analysis
in a visual table (for
each stakeholder:
needs, red flags,
and mitigations)

 Provide feedback
Output validation

Excerpts From Real Conversations

SIMULATION CASE: Electric vehicle manufacturer considering sourcing cobalt from Africa. This poses potential human rights and environmental risks in some mining areas that must be addressed to ensure responsible and sustainable sourcing.



THE AI CO-THINKER PROVIDES A CONSOLIDATED LIST OF STAKEHOLDERS, INCLUDING THOSE MISSING



You have identified a comprehensive group of stakeholders, all of which have crucial roles to play:

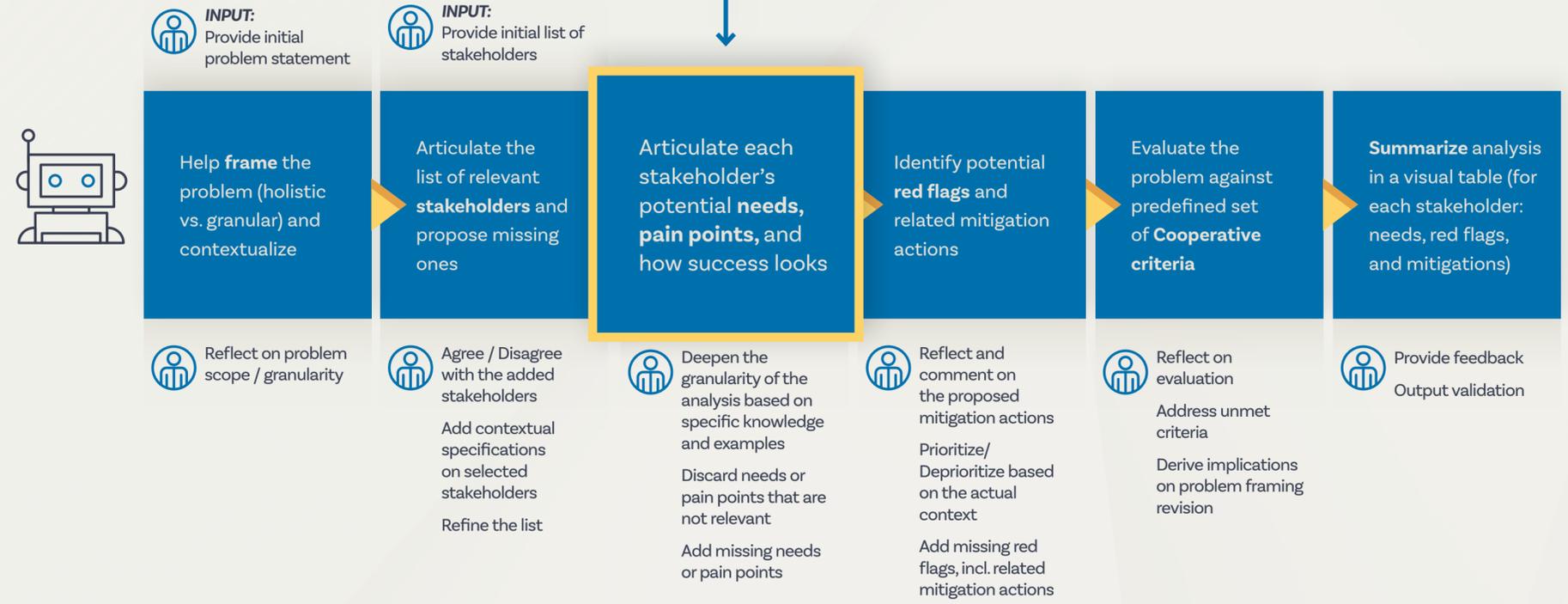
1. Mining Companies (Suppliers) - Provide the cobalt necessary for battery production and are directly involved in mining operations.
2. Local Government and Labor Agencies - Responsible for the regulatory environment, labor laws enforcement, and workers' welfare.
3. Local Communities - Directly affected by mining operations and potential beneficiaries of ethical labor practices.
4. Unions - Represent the workers' rights and interests in the mining sector.
5. Global Industry Associations - Set industry standards and can influence broader practices and policies.
6. Competitors (Other Automotive Companies) - Share similar supply chain concerns and could collaborate on industry-wide solutions.
7. NGOs - Advocate for human rights, environmental protection, and may have on-the-ground intelligence about local issues.
8. Local Workers in Mines - The primary individuals affected by these labor conditions.

Considering these stakeholders, I would also recommend considering the following additional ones:

1. International Regulatory Bodies - Such as the United Nations or specific commodity trade organizations, which could provide guidelines and support international standards.
2. Ethical Supply Chain Auditors - Specialists who can independently assess and verify the conditions in the mines.

Excerpts From Real Conversations

SIMULATION CASE: Electric vehicle manufacturer considering sourcing cobalt from Africa. This poses potential human rights and environmental risks in some mining areas that must be addressed to ensure responsible and sustainable sourcing.



THE AI CO-THINKER ARTICULATES EACH STAKEHOLDER'S NEEDS AND PAIN POINTS



Step 4: Relevance of Stakeholders. Given the stakeholders we've identified, let's articulate potential specific needs, unresolved pain points, and root causes for each. Here are some initial thoughts:

1. Mining Companies (Suppliers)

- ▶ Needs: Stable demand, fair pricing, regulatory compliance.
- ▶ Pain Points: Pressure to meet demand while maintaining ethical practices, potential backlash from exposure of poor labor conditions.
- ▶ Root Causes: Economic pressure to use cheaper labor, lack of enforcement of labor laws.

2. Local Government and Labor Agencies

- ▶ Needs: Economic growth, employment, maintaining order and legal compliance.
- ▶ Pain Points: Corruption, inadequate resources for regulation and enforcement.
- ▶ Root Causes: Conflict between economic alternatives and ethical labor practices.

3. Local Communities

- ▶ Needs: Sustainable livelihoods, community health, and safety.
- ▶ Pain Points: Exploitation by mining companies, environmental damage.
- ▶ Root Causes: Lack of economic alternatives, insufficient legal protection.

4. Unions

- ▶ Needs: Protection of workers' rights, safe working conditions.
- ▶ Pain Points: Resistance from mining companies, difficulty in organizing workers.
- ▶ Root Causes: Power imbalance, lack of legal enforcement.

5. Global Industry Associations

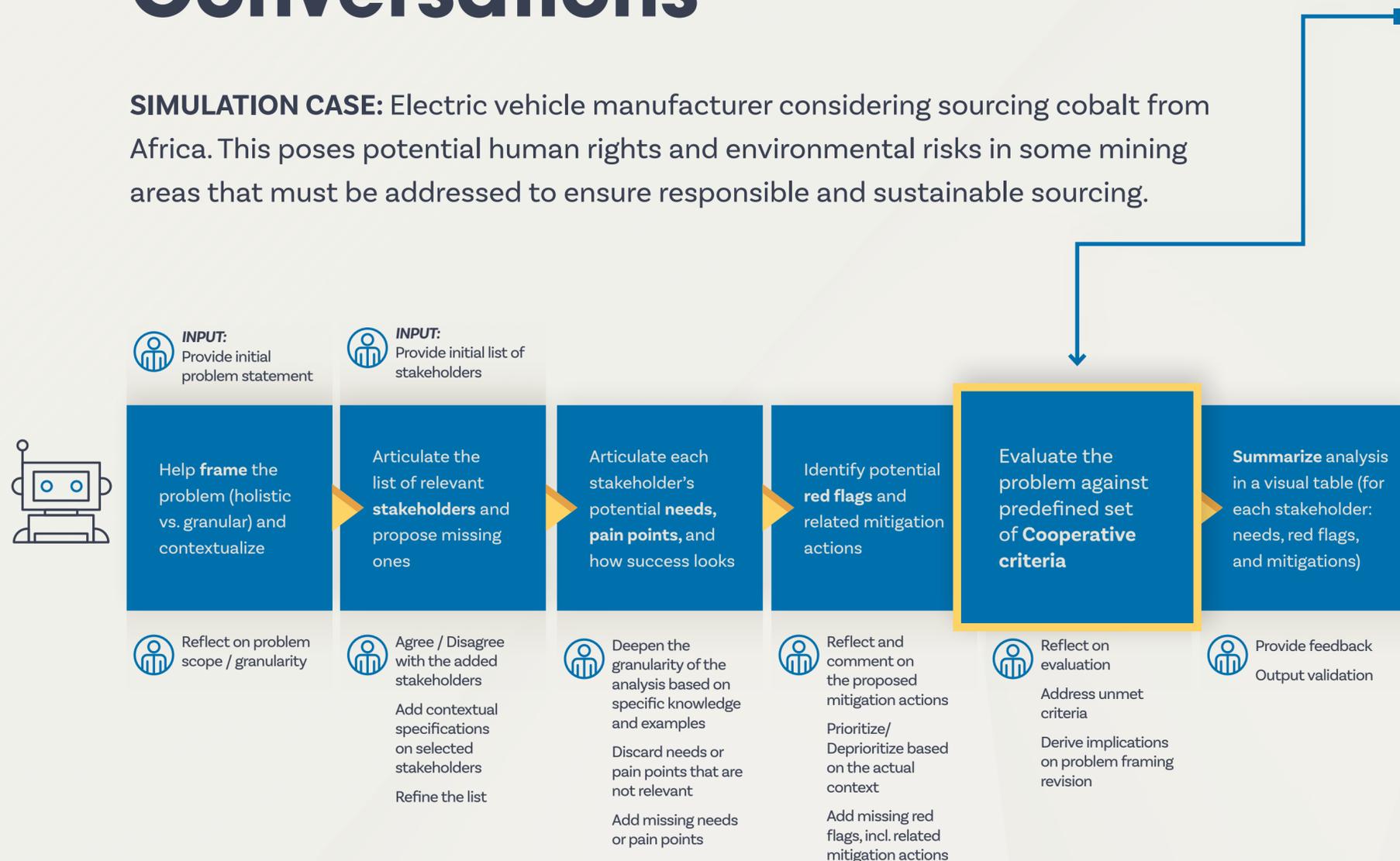
- ▶ Needs: Industry-wide standards, member compliance.
- ▶ Pain Points: Diverse interests of members, enforcement of guidelines.
- ▶ Root Causes: Voluntary nature of associations, global diversity in labor laws.

6. Competitors (Other Automotive Companies)

- ▶ Needs: Reliable cobalt supply, brand protection.
- ▶ Pain Points: Shared dependency on a region with ethical issues.
- ▶ Root Causes: Concentration of cobalt supply.

Excerpts From Real Conversations

SIMULATION CASE: Electric vehicle manufacturer considering sourcing cobalt from Africa. This poses potential human rights and environmental risks in some mining areas that must be addressed to ensure responsible and sustainable sourcing.



THE AI CO-THINKER HELPS THE USER EVALUATE AGAINST 10 PREDEFINED CRITERIA



- 4. Consensus Building:** The approach includes working with various stakeholders but needs a defined mechanism for building consensus, especially with competitors.
- 5. Alignment with Values:** The plan reflects a commitment to ethical practices and sustainability, in line with the company's stated values.
- 6. Authenticity:** Authenticity will hinge on transparent practices and real changes in labor conditions, requiring third-party verification.
- 7. Inclusivity:** Involving local workers and communities in decision-making processes will be crucial for inclusivity.
- 8. Ethic of Care:** The emphasis is on ethical labor practices, although a clear ethic of care needs to be continuously demonstrated.
- 9. Responsive Leadership:** Leadership must be ready to respond to new insights and adjust strategies accordingly.
- 10. Commitment to Continuous Improvement:** The mitigation actions suggest a commitment, but this should be institutionalized in company policies and review processes.

Considering these criteria, there may be opportunities to enhance the spirit of care, meaningful dialogue, consensus building, and inclusivity. These areas will benefit from explicit strategies and actions demonstrating the company's commitment.

Does this reflection resonate with you, and are there criteria you feel need more attention?

Multistakeholder Co-creation: Comparative Evaluation

| | TRADITIONAL SEARCH | AI ASSISTANT* | AI CO-THINKER* |
|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Speed |  |  |  |
| Emotional engagement («I got into the flow» ; «I got bored» ; «It was wow») |  |  |  |
| Interaction («It was smooth and clear» ; «It guided well» ; «It was value-added dilalogue») |  |  |  |
| Output quality («It was excellent» ; «It was deep» ; «It was average» ; «It was unsatisfactory») |  |  |  |

Difficult to navigate weblinks to similar problems and cases. Requires offline time and effort to read and extract findings .

AI is fast in proposing a comprehensive list of stakeholders. Lack of guided flow and predefined criteria makes the dialogue not very interactive/engaging.

High engagement and interaction thanks to AI methodological guidance. Process is very good. However the content may stay superficial without custom content injection

*Simulations without injection of confidential data

What We Heard



The guided sequence was helpful (e.g., asking for the benefits and the risks, then seeking mitigation options). I also appreciated that the machine gave me suggestions on additional stakeholders that I had not listed, expanding the perspectives.

Hervé Baratte,
Executive Advisor



The chatbot effectively addressed the problem, adding relevant stakeholders and presenting the information clearly. The summary table generated at the end of the dialogue was helpful.

I see the opportunity to further enrich the sequence with stakeholder prioritization and interaction timelines.

Cristiano Bellucci,
Technology Vision Strategist, Fujitsu



The chat was an engaging experience. The overall conversation flow and dialogue was good, as it continuously asked if I wanted additional solutions or information to be broken. It responded with solutions to the problem, and it also went on to provide additional information when requested.

Christian Ransom,
MBA in Data Analytics student - Clayton State University



In relation to emotional involvement, I would assign a high score as I sensed a genuine concern about the topic of discussion. While some responses were a bit generic, the overall conversational flow was captivating and relatable. The output quality, on the other hand, could benefit from additional research.

Muosa Sheikh,
Master of Science in Supply Chain Analytics student - Clayton State University

Multistakeholder Co-creation AI Co-Thinker: Key Takeaways

Comprehensive Stakeholder Analysis

- ▶ The AI Co-Thinker proved good at uncovering stakeholders, including the ones that may be often overlooked, ensuring an inclusive analysis of underrepresented parties and communities.

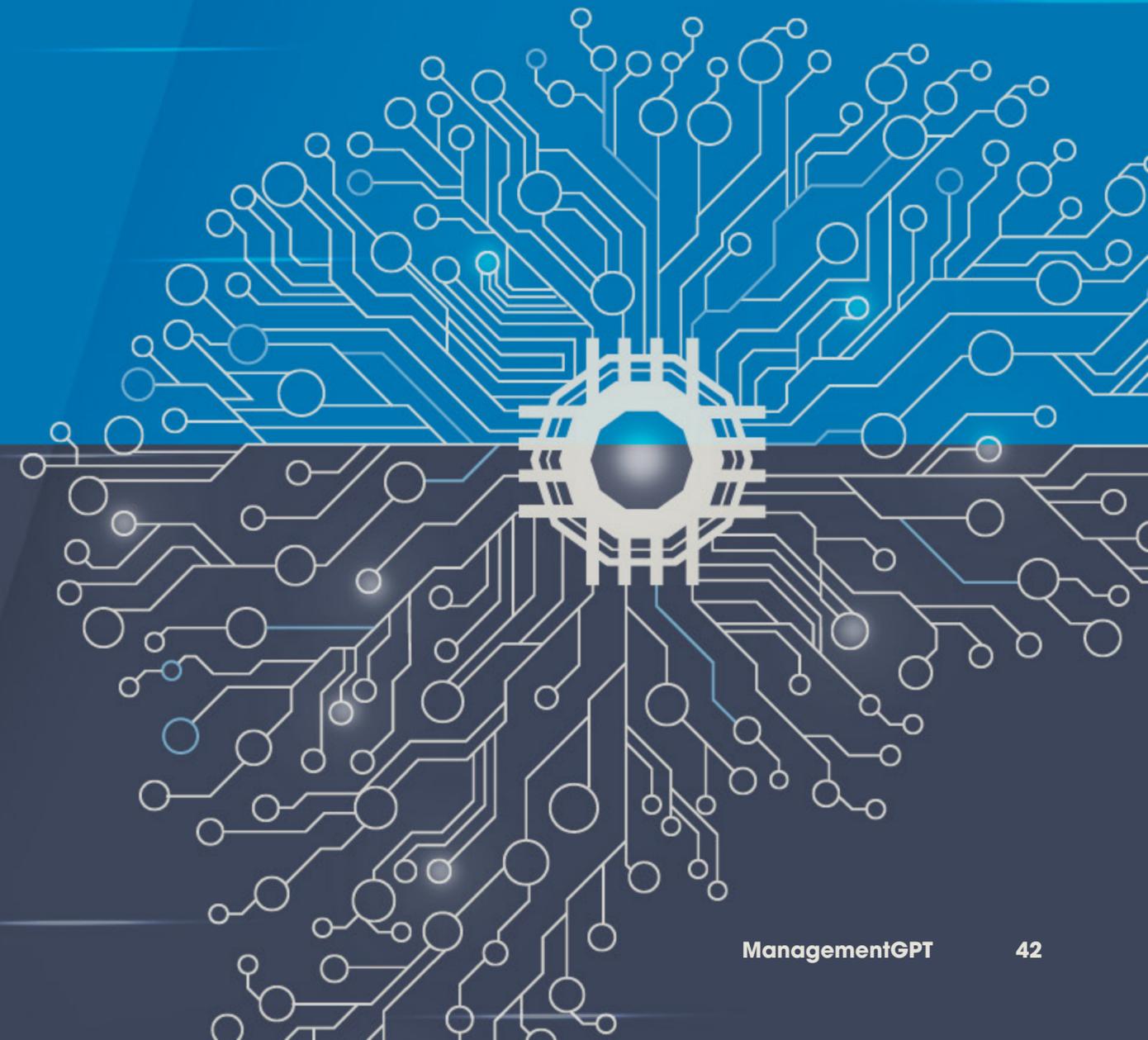
Nuanced Perspective Taking

- ▶ The AI Co-Thinker proved good at simulating personas, helping humans empathize with stakeholders, understand their viewpoints, and anticipate red flags (and how to mitigate them early on)

Methodological Proficiency

- ▶ The AI Co-Thinker effectively applied the process and steps for ensuring a thorough analysis of stakeholders.
- ▶ It followed the principles of cooperative advantage, delivering proper evaluations of criteria and elaborating valid recommendations for improvement.

Lessons Learned And Path Forward



Evidence from the experiments



▶ As expected, AI wins over traditional engine search on all dimensions.

▶ The AI Co-Thinker does not always perform better than the AI Assistant.

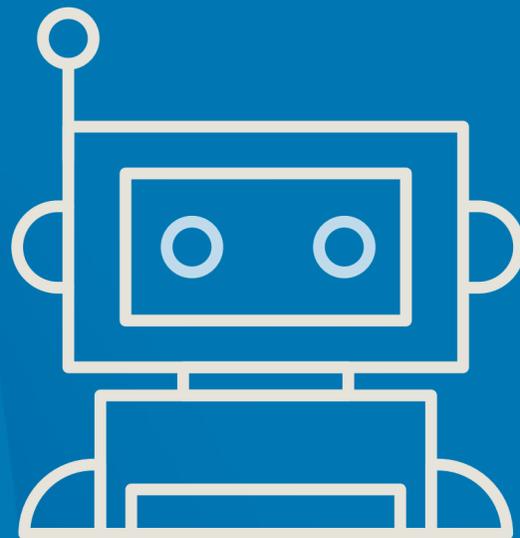
▶ **Currently, the choice between the two interaction modes depends on:**

- Level of expertise of target users.
- Strategic goals and trade-offs (for instance, between expected output quality and level of emotional engagement).
- Standardization of the conversation, fostering reuse and scalability across the organization.

▶ Looking at future tech evolutions, we expect the AI Co-Thinker to beat the Assistant due to the increasing need for customization, data integration and security, IP protection, and more.

Focus on AI Co-Thinker Lessons

MACHINE SIDE



Methodology guide

The machine, when well prompted, facilitates complex analysis, helping humans proceed step by step and achieve a structured output for the conversation. The more complex and sophisticated the method the most valuable the contribution of the machine to a well guided flow.

Trade-off between content injection and output quality

Counterintuitively, an excess of input can generate noise and suboptimal answers. There is a need to assess and balance carefully the granularity of content instructions, and related wording within the prompt, and then to test results through experimentation (trail and error).

Balance structure with engagement

The system should facilitate reflective user engagement. While the process should be stepwise, it needs to stay engaging and open to reflection, articulation, and elaboration, rather than becoming a mere sequence of unengaging tasks. Too much structure can dampen emotional involvement, yet too little may lead to distractions and off-topic detours.

Visual output

Leverage the AI's ability to summarize complex discussions in concise visual and narrative drafts is invaluable (e.g. a summary table distilling the essence of a complex conversation).

Focus on AI Co-Thinker Lessons

HUMAN SIDE



High human engagement is the success factor

Be aware of the Drop-Out risk

Beyond one-to-one, open the conversation to teams

- ▶ Although the machine can give the initial boost to trigger human involvement (in the form of preliminary ideas, suggestions, examples), the human should actively participate in the conversation beyond simple “click-through.”
- ▶ When the human provides meaningful information, specific details of contextual situation, personal examples, and comments, the relevance of the AI’s output will significantly improve.

The risk of humans prematurely ending the conversation stems from either:

- ▶ Laziness to sustain the conversational effort
 - ▶ “Blank page syndrome” arising from a knowledge gap about providing adequate information to dialogue with AI.
-
- ▶ Don’t limit it to 1:1. Gen AI Co-thinking thrives in collaboration. The involvement of peers, team members or users can refine the human-machine conversation structure, enrich the content, and ultimately improve final output.
 - ▶ The human-machine conversation should be an open dialogue, enriched over time with additional perspectives.

Path Forward

It has been a fascinating learning and experimentation journey.

We have collected numerous inputs to enable us to continue improving these initial prototypes.

Additionally, the feedback has provided ideas for the potential development of additional AI Co-Thinkers.

This confirms there is growing interest (and an opportunity gap to fill) when it comes to the managerial applications of conversational AI.



Capgemini  invent

THINKERS
50

Copyright 2024 Capgemini Invent & Thinkers50