When GenAI Enters the Board: Exploring the Sociomaterial Reconfiguration of GenAI-Augmented Decision-Making Spaces

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## Abstract

The integration of generative AI (GenAI) systems into organizational life marks a significant shift in the nature of digital work, particularly at the strategic level where decisions are often collaborative, uncertain, and high-stakes. While prior research has examined AI as a supportive tool, the emergence of large language models (LLMs) enables AI to function as an agentic collaborator—interacting with human teams in natural language, shaping the trajectory of discussion, and potentially influencing decisions. This study investigates how GenAI reconfigures the sociomaterial fabric of high-level group decision-making by examining the introduction of a conversational LLM-based agent into executive committee simulations. Drawing on de Vaujany’s trifecta framework for IT-based regulation and a sociomaterial lens, we explore how the GenAI agent mediates regulatory practices—how rules are interpreted, followed, questioned, and redefined—and how it reshapes collaboration dynamics and decision authority within human-AI teams. Using an experimental-inspired qualitative design with six groups of managers, we surface emerging work configurations and coordination patterns that reflect the agentic role of AI in strategic decisions. Our findings contribute to the theorization of human-AI collaboration by revealing how conversational GenAI systems become embedded as social actors within high-level decision processes, with implications for the governance, ethics, and design of future AI-augmented work.

## Keywords

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# Introduction

Digital technologies – and artificial intelligence (AI) in particular – are profoundly reshaping how contemporary organizations operate, make decisions, and structure work (Bailey and Barley, 2020; Berente et al., 2021). A key frontier in this transformation is the evolution from traditional decision-support tools to more agentic AI systems capable of independent interaction, learning, and adaptation (Möhlmann et al., 2021; Tarafdar et al., 2023). These systems do not merely enhance human decision-making – they actively participate in it. Nowhere is this shift more consequential than in strategic decision-making contexts, where high-level executives must navigate uncertainty, time pressure, and the inherently social nature of group deliberation (Eisenhardt and Zbaracki, 1992).

At this level of organizational activity, AI is no longer confined to the background of analytics dashboards or forecasting models. It is increasingly embedded into the very fabric of executive reasoning and coordination. AI agents are starting to join deliberations, subtly influencing how issues are framed, which options are foregrounded, and how consensus is reached (Bort, 2017; Mishra, 2022). As a result, the boundaries between human and machine agency are blurring, transforming decision processes into hybrid configurations of human and artificial actors.

This transformation has reached a new inflection point with the advent of large language models (LLMs), such as OpenAI’s GPT-4 or Google’s Gemini. Unlike earlier forms of AI that relied on structured outputs or rule-based logic, LLMs can engage in fluid, open-ended conversation, synthesize complex information, and respond dynamically in natural language. These capabilities allow LLMs to function not just as tools, but as interlocutors – participants in decision-making dialogues. As organizations begin integrating these systems into high-stakes domains such as strategic planning and executive meetings, we are witnessing the rise of human-AI assemblages that challenge conventional distinctions between augmentation and automation, and between tool and teammate (Grønsund and Aanestad, 2020; Holmström and Carroll, 2024).

Yet this evolution raises pressing and underexplored questions. What happens to group dynamics when AI becomes a visible and vocal actor in the decision room? How do human teams interpret, evaluate, and coordinate with such agentic systems? And how are authority, legitimacy, and control renegotiated when decisions are shaped through interactions with machines that can argue, persuade, and suggest?

To investigate these questions, this study explores how the introduction of a conversational GenAI agent – powered by an LLM – reshapes strategic decision-making at the group level. We approach this phenomenon through a sociomaterial lens (Orlikowski, 2007), which treats technology not merely as a backdrop to human activity but as an active participant in organizational practice. More specifically, we draw on de Vaujany’s trifecta of IT-based regulation (de Vaujany et al., 2018) to analyze how GenAI reconfigures the normative, cognitive, and material dimensions of group decision-making. This perspective allows us to examine how rules, roles, and power structures are enacted, negotiated, or disrupted in the presence of AI.

Empirically, we conducted an inductive qualitative study involving six strategic decision-making simulations. Each simulation placed a team of five experienced or future managers in a realistic strategic scenario and introduced a GenAI agent into the deliberation process. Using an experimental-inspired design with control and treatment groups, we isolated the influence of the GenAI agent on collaboration dynamics, regulatory behavior, and the nature of decision outcomes.

By surfacing these emerging human-AI configurations, our study contributes to the growing literature on the changing nature of work and the agentic role of AI in organizational contexts. We provide theoretical insights into how AI systems participate in, and are shaped by, human regulation and collaboration. In doing so, we reframe strategic decision-making as a hybrid socio-technical practice, one in which organizational agency is increasingly distributed across human and nonhuman actors. This work has practical implications for the design and governance of GenAI-augmented decision-support systems in complex, high-stakes environments.

# Background

Work configuration around human-AI + reconfiguration 🡪 ella hafermalz + other papers cited in the special issue

Strategic decision-making spaces and the role of AI in these spaces

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