From Human-Centered to Hybrid: Mapping the Emergence of GenAI in Organizational Actor-Networks

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Abstract*. Generative Artificial Intelligence (GenAI) is reshaping organizations by acting as a non-human actor that both disrupts and catalyzes innovation in socio-technical networks. In this study, we adopt a dual theoretical lens combining Actor-Network Theory (ANT) and the Business Model Canvas (BMC) to analyze how GenAI's integration reconfigures human machine relations and alters core business-model elements. We introduce a novel interactive methodology using GPT-based journaling to elicit insights from professionals, treating GenAI as both the subject and instrument of inquiry. Preliminary findings reveal that GenAI automates routine tasks, sparks cognitive shifts from rote memorization to deeper comprehension, and motivates new learning behaviors, effectively serving as a "reflective partner" in organizational processes. Through ANT, we observe how GenAI enrolls into networks by defining new roles and workflows; through BMC, we see changed value propositions, resources, and cost structures. These results underscore GenAI's potential as a productive disruptor enabling organizations to design innovative processes and value creation pathways. Our contributions are theoretical, by extending ANT to contemporary AI contexts, and practical, by demonstrating how GenAI can be strategically integrated to drive innovation impact.*

Keywords: Generative AI, Actor-Network Theory, Business Model Canvas, Organizational Innovation, Productive Disruption, GPT-based Journaling, Hybrid Agency

1 Introduction

Generative Artificial Intelligence (GenAI) is no longer confined to the realm of experimental technology; it has become an active participant in redefining how modern organizations operate. The rapid proliferation of GenAI tools, particularly large language models such as ChatGPT, DALL-E, and others, marks a shift in how non-human agents interact within organizational environments. These systems do not merely assist humans in executing tasks; they co-construct workflows, influence decisions, and, increasingly, redefine the meaning of knowledge work itself. This phenomenon presents both opportunities and challenges. While GenAI promises automation, efficiency, and creative augmentation, it also introduces uncertainties related to trust, governance, and the erosion of traditional roles.

Why is this problem relevant? Organizations across sectors are already integrating GenAI into diverse processes from customer service and marketing to research and strategic planning. A global study by LeanIX (2024) revealed that 80% of IT professionals report GenAI adoption in their companies, yet only 14% claim full visibility into its use. This imbalance underscores a critical gap in strategic integration and governance. As organizations rush to adopt GenAI, they often do so without fully understanding its impact on business models, internal structures, and the sociotechnical networks that sustain daily operations. Previous research has explored GenAI from multiple angles. Operational studies confirm its productivity benefits, while psychological and design research investigate user perceptions and usability. However, these studies often treat GenAI as a tool rather than as an actor capable of altering organizational dynamics. Simultaneously, Actor-Network Theory (ANT) has provided powerful insights into the distributed agency of human and non-human entities, especially in technology-rich environments. Yet its application to GenAI remains limited. The Business Model Canvas (BMC) has also proven effective in tracking changes in business structures but rarely intersects with sociotechnical theories like ANT.

To address this gap, our research combines ANT and BMC to examine GenAI as a productive actor in organizational networks. We argue that GenAI not only supports innovation but actively disrupts and reconstructs value creation processes. Our methodology is equally innovative: we use GPT-based interactive journaling to capture professionals lived experiences with GenAI. Participants engage with an AI-powered journaling tool that prompts reflective

thinking about GenAI's role in their work. This method transforms GenAI from object of analysis into co-participant, generating insights that are both experiential and theoretically grounded.

This study extends ANT by demonstrating how GenAI acts as a non-human agent in organizational translation processes. It also shows how GenAI reconfigures business model components, especially key activities, resources, and value propositions. Furthermore, it introduces GPT-based journaling as a novel tool for qualitative research, aligning with participatory and reflexive methodologies. Strategically, the paper positions GenAI as a designed disruptor that can be intentionally embedded to drive innovation.

The rest of the paper is organized as follows: Section 2 reviews literature on ANT, BMC, and GenAI in organizations. Section 3 describes our qualitative methodology and data collection procedures. Section 4 presents and analyzes the results. Section 5 discusses the results. Section 6 concludes by evaluating whether we met our aim, highlighting limitations, and outlining future research directions.

2 Literature Review

2.1 Theoretical Framework: ANT and BMC

Actor-Network Theory provides a sociotechnical lens for this study, treating both people and artifacts as agents in networks that co-create social reality. Foundational works by Callon and Latour introduced the idea of translation processes: *problematization*, *interessement*, *enrolment*, *mobilization* through which new actors (human or non-human) redefine relations and stabilize networks. In digital contexts, scholars note that algorithms and AI systems exhibit agency, reshaping power dynamics (Montoriu Gutiérrez, 2023) and giving rise to "hybrid collectives" of humans and machines. Recent ANT applications (e.g., Jensen & Sandström, 2019; Bertella & Tomassini, 2024; Ryan et al., 2024) demonstrate how combining ANT with discourse or case analysis can uncover how technological and human interests align or conflict in complex projects. However, few studies have explicitly treated AI tools as actors on equal footing with people. This gap suggests the need to extend ANT into the era of generative AI, where non-human agency can be more visible and transformative.

Complementing ANT, the Business Model Canvas offers a practical structure to capture organizational innovation. Osterwalder and Pigneur (2010) developed the BMC to help practitioners articulate key elements: value proposition, customer segments, channels, revenue streams, etc. of a business. Recent work has further adapted the BMC for digital and sustainable contexts, emphasizing ecosystems, co-creation, and platform governance. For example, Bachmann et al. (2025) expand the BMC to 18 elements for digital sustainability challenges, and Schlimbach and Asghari (2020) propose a "Digital Canvas" for designing digital business models. These frameworks underline that business model innovation is critical when new technologies emerge. Yet, how generative AI specifically alters these canvas components for instance, by enabling new value propositions or automating previously human activities remains underexplored. Integrating ANT with the BMC, therefore, allows us to theoretically capture GenAI's multi-dimensional impact: as it enrolls into networks (ANT), it simultaneously reshapes business logic and strategies (BMC).

2.2 Generative AI in Organizational Practice

Generative AI refers to systems (like GPT, DALL-E, etc.) that produce content or insights, and it has begun to significantly affect workplaces. Empirical studies reveal both promise and caution. Productivity gains are often reported: Noy and Zhang (2023) found that deploying ChatGPT reduced task completion time by 40% while also improving the quality of professional writing. Cui (2024) shows that Chinese manufacturers using GenAI saw higher productivity, leading to stronger e-commerce brand-building. Startups are rapidly embracing GenAI for *growth hacking*, e.g., for product-led development or automated sales content though leaders also worry about AI bias and loss of human touch. Knowledge workers in science labs similarly use GenAI primarily for writing assistance and workflow automation, alongside concerns about data reliability and overdependence. Users often regard AI outputs as helpful advice: Böhm et al. (2023) report that people still trust AI-generated solutions even when rating AI authors as slightly less competent than humans.

However, challenges abound. Many companies lack governance frameworks: a global survey (LeanIX, 2024) reports that only 14% have visibility or governance in place. Potential downsides include unregulated "shadow AI" usage and biases in AI outputs. Researchers note that public discourse on GenAI tends to emphasize economic and business themes, whereas academic discussions focus on technical possibilities (Zhang et al., 2024), indicating a gap between hype and scholarly insight. Overall, this literature establishes that GenAI is a disruptive force in organizations (boosting performance, changing job content), and thus warrants analysis as an actor that can both destabilize and innovate organizational arrangements.

2.3 Actor-Network Theory in Technological Integration

Applying ANT in practice often reveals how success or failure emerges from actor interactions rather than

isolated factors. For instance, studies of IT implementation (e.g., Cresswell et al., 2010) found that outcomes depended on how human users and technical systems enrolled each other through translation processes. In healthcare, Ryan et al. (2024) systematically review over 100 ANT studies and note that although ANT is widely used, many applications only partially employ its core elements. This suggests caution: we should strive to fully trace the stages of translation and network formation when studying GenAI. Other ANT cases like the Kiruna mine study (Jensen & Sandström, 2019) highlight that infrastructures and local communities co-enact "spaces" of work. These examples encourage us to treat GenAI not just as a background tool, but as a "quasi-actor" that participates in negotiation, co-creation, and potentially dissent within organizational networks. Recent ANT scholarship on AI (e.g., Montoriu Gutiérrez, 2023) also emphasizes new power dynamics of algorithms, reinforcing our stance that GenAI's agency deserves explicit theorization.

2.4 Business Model Canvas and Digital Innovation

The BMC literature confirms that business models must evolve when confronted with digital disruptions. Studies using the BMC show how incumbents and startups reconfigure their offerings. For example, Rahman et al. (2025) analyze U.S. gas stations using the BMC, revealing how traditional businesses integrate EV charging and retail services to diversify. Knowledge of the BMC also correlates with entrepreneurial intent: Hendrasto et al. (2024) find that awareness of the BMC significantly boosts young people's interest in starting businesses. Specialized canvases such as the Platform Business Model Canvas (Eisape, 2019) further illustrate how complex value networks can be captured. The consensus is that static business models struggle with emerging tech, so organizations benefit from iteratively adapting their BMC components (partners, activities, revenue streams, etc.) in response to innovation. Our study situates GenAI within this tradition: we use the classic BMC to trace how GenAI's presence adds new value streams and alters cost structures, complementing recent digital extensions of the canvas.

This review highlights that while GenAI's operational effects are documented (productivity boosts, usability concerns, shifts in task perception), there is still a theoretical and empirical gap in viewing GenAI as an actor that *re-designs* networks and business models. We address this by synthesizing ANT and BMC perspectives in the following research.

3 Methodology and Data

3.1 Research Approach

We follow an exploratory qualitative design, well-suited for unpacking a nascent phenomenon like organizational GenAI usage. Rather than testing hypotheses, we aim to trace patterns and meanings as experienced by practitioners in context. This inductive approach acknowledges that GenAI's role is rapidly evolving, so open-ended data collection can surface unexpected themes. To align with ANT, we focus on interactions: how does GenAI get enrolled, who are the allies/adversaries, what controversies emerge? Concurrently, the BMC guides us to map any noted changes onto business-model dimensions (e.g., "new customer relationships" or "altered key activities"). Thus, our method is both theoretical and empirical, blending sociological interpretation with business analytics.

A novel element of our method is GPT-based interactive journaling. Inspired by Pretorius and Pretorius (2025), we use a custom GPT chat interface as an "AI diary". Participants answer open-ended questions about their GenAI experiences, and the GPT system adaptively asks follow-ups to probe themes like task automation, collaboration, productivity, and business. Crucially, the GPT journal does *not* give advice; it prompts reflection. This technique has three key advantages: (1) it standardizes questioning while allowing rich, free-form responses, (2) it implicitly demonstrates GenAI's conversational role

(participants see the AI as a partner in reflection), and (3) it generates data that already aligns with our theoretical lenses (the journal can incorporate BMC concepts in prompts).

In parallel, we collected WhatsApp voice notes (1–2-minute recordings) on guided themes, broadening participation to those who might find voice more natural. These audio reflections covered emotional responses to AI, observed workflow shifts, and impact on value generation. Together, the text journals and voice notes provide a triangulated dataset, enhancing depth. All participants gave informed consent and data were anonymized, with ethical protocols (GDPR compliance, member checking) strictly followed.

3.2 Sampling and Data Collection

We targeted professionals across roles and industries who have direct experience using GenAI at work. Initial contacts were recruited via a LinkedIn call-out, supplemented by snowball referrals. Selection was purposive, not random: we sought diversity in job function (e.g., developers, marketers, analysts) rather than representativeness. Each participant engaged in one GPT journaling session (five adaptive questions, lasting about 10-15 minutes) and submitted one voice note. The journaling interface was multilingual (English, Spanish and German) to accommodate

backgrounds, and each session concluded by sharing the transcript for analysis. While the broader study includes six participants, this paper focuses exclusively on the data collected from one participant, selected for its richness and relevance in illustrating the conceptual integration between Actor-Network Theory and the Business Model Canvas.

No quantitative data was collected or analyzed, as the study follows a purely qualitative and exploratory design.

3.3 Data Analysis

All qualitative data were analyzed using inductive content coding. Transcripts were first coded openly to identify emergent themes. Then we applied the ANT/BMC frameworks deductively: for each code, we asked, "Does this indicate a new actor-role or network effect?" and "Which canvas component does this touch?". For instance, when a participant described GenAI helping them learn faster, we coded it under "learning transformation" (an emergent theme) and linked it to the BMC's "key resources" and "value proposition" (as it became a cognitive resource and added learning value). We used ANT concepts (from Callon's translation stages) to trace how GenAI was introduced and stabilized in the workflow

(problematization: defining a need for summarization; interessement: convincing workers to try GenAI; enrolment: integrating it into processes).

To ensure rigor, we practiced reflexivity and triangulation. The researcher kept an analytic journal to note personal biases, and key insights were reviewed with participants (member checking) where possible. By intersecting multiple data sources (GPT journal, voice notes) and theories, we built a rich understanding of GenAI's organizational role that goes beyond any single viewpoint.

4 Results and Analysis

The preliminary analysis of our first GPT journal session yields three dominant themes: (1) Task Automation, (2) Learning Transformation, and (3) Productivity & Motivation. These themes illustrate how GenAI entered the participant's work network and altered business-model elements.

- Task Automation: The participant initially used GenAI (a summarization assistant) to automate routine parts of document handling. Over time, this led to a translation of roles: GenAI became a quasi-colleague responsible for synthesis tasks. In ANT terms, the process moved through stages: the problem was defined (GenAI summarization), the participant enrolled the AI by feeding texts, and gradually the AI's output was accepted into the workflow. BMC-wise, the key activities shifted summarizing tasks were streamlined, and key resources expanded to include the AI tool itself. The participant noted, "What used to take hours of reading now takes minutes," effectively changing the cost structure (time was saved).
- Learning Transformation: A striking pattern emerged in cognition. The participant described a shift from memorization to comprehension: rather than recalling facts, they now focused on understanding concepts aided by GenAI. The AI acted as a reflective partner, prompting deeper processing of information. This aligns with Pretorius and Pretorius (2025) who found ChatGPT can enhance insight generate on, and with Dedema and Ma (2024) who report creative benefits from AI-assisted brainstorming. In our case, the BMC "value proposition" evolved: the AI did not replace learning but enriched it, adding new educational value. This theme shows GenAI's non-human agency: it became a co-learner, demonstrating how human skills and machine capabilities co-construct new forms of knowledge (an ANT enactment of co-becoming).
- Productivity and Motivation: The third theme was increased efficiency and engagement. The participant felt "more motivated" knowing that tedious steps were handled by AI. This echoes the findings of Noy and Zhang (2023), who observed that access to ChatGPT led to substantial productivity gains by enhancing both the efficiency and quality of professional writing. The psychological boost from cognitive load, also emerged, suggesting that GenAI's disruption can be positive: automating drudgery freed the participant to tackle creative tasks. In business-model terms, productivity gains lower operational costs and possibly enables new services or faster delivery. The participant planned to use the saved time for extra training, implying an indirect value proposition for skill development.

To illustrate the dynamics of GenAI integration, Fig. 1 presents the GenAI summarization process mapped through the lens of Actor-Network Theory. This figure captures how GenAI progressively integrates into organizational workflows by undergoing the five translation stages outlined in ANT: problematization, interessement, enrolment, mobilization, and stabilization, thereby evolving from a peripheral tool to a central actor in value creation.

The researcher also played the dual role of designer and analyst of the journaling tool. This reflexivity meant being aware that the GPT prompts could steer responses. We maintained transparency by recording all prompt changes and using multiple coders to verify theme consistency. The fact that GenAI generated our data as well as our analysis framework is itself illustrative: it shows how AI can be a partner in research, co-constructing the findings just as we aim to reveal its co-construction of organizational work.

This prototypical case demonstrates that GenAI's presence does more than automate, it translates into a

new actor-network configuration. GenAI ceased to be background machinery and instead participated in value creation, knowledge work, and network stabilization.

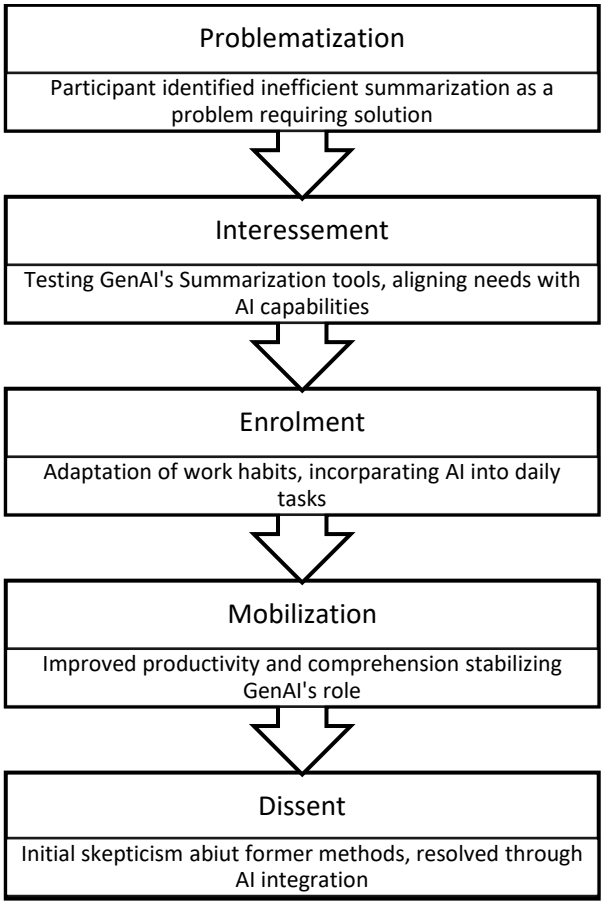

Figure 1. GenAI summarization process based on ANT

5 Discussion

Our findings reveal clear parallels with existing research, reinforcing our dual-lens approach. The observed productivity gain and cognitive shift are consistent with Noy and Zhang (2023), who found that generative AI tools significantly improved task efficiency and the quality of professional outputs. Similarly, the emergence of GenAI as a "reflective partner" confirms Pretorius and Pretorius's (2025) insight that ChatGPT can enhance reflexivity and insight in qualitative research. From an ANT perspective, the stages of integration we identified mirror the classic translation process: GenAI was problematized (as a needed resource), interessement occurred (the participant accepted the AI's help), and the network stabilized as GenAI became accepted (enrolment). These patterns echo Xu et al.'s (2022) e-commerce study where actor roles shifted through translation to maintain network stability. Finally, the impacts on BMC components (e.g., value proposition, cost structure) align with calls in the business-model literature for adaptive BMCs in the face of digital technologies.

From an academic perspective, this research makes three key contributions. **First**, it extends *Actor-Network Theory* into the domain of *generative AI*, offering empirical evidence that GenAI is not a passive tool but an active, enrolling agent in organizational networks. **Second**, it demonstrates how ANT and BMC can be productively combined to map both the relational and strategic dimensions of digital transformation. **Third**, it introduces and validates *GPT-based journaling* as a novel, reflexive qualitative method that aligns methodologically with the hybrid human-machine subject under investigation.

On the practical side, our findings offer actionable guidance for managers, innovation strategists, and organizational designers. We recommend that GenAI adoption be framed not as a technology deployment, but as a strategic redesign process. Organizations can redefine business model elements by embedding GenAI into key resources and activities, using it to unlock new value propositions such as hyper-personalized services, faster ideation, and reduced operational overhead. For instance, HR departments may reconfigure onboarding workflows using GenAI chat interfaces, while marketing teams may deploy GenAI as co-creators in campaign generation, altering not only output speed but also content strategy.

Moreover, organizations should approach GenAI integration as a network negotiation process, enrolling stakeholders, realigning responsibilities, and explicitly mapping new actor roles to avoid resistance and ensure sustained value. By understanding GenAI as a socio-technical actor, rather than a simple IT tool, firms can implement change initiatives that are more inclusive, adaptive, and innovation-driven.

Incorporating GenAI also requires a reconfiguration of organizational agility. Traditional change management models that rely on rigid, linear processes are ill-suited to the fluidity GenAI enables. Instead, organizations must adopt AI-responsive operating models, dynamic frameworks built on modularity, real-time feedback, and iterative learning. For example, project teams can embed GenAI into agile sprints for ideation, experimentation, and reflection, effectively creating rapid innovation loops. GenAI thus becomes not just a resource, but a rhythm, an embedded cadence of continual sensemaking and redesign.

Finally, we encourage decision-makers to treat GenAI not just as a cost-saving mechanism but as a catalyst for cultural transformation. This includes investing in training programs that foster human-AI collaboration, rethinking organizational routines to emphasize co-learning, and designing governance frameworks that mitigate risks while enabling experimentation.

Cross-functional integration will become a competitive imperative. GenAI must not remain

isolated within IT or innovation departments, it needs to be embedded across core business functions. In finance, it can be used for real-time forecasting and strategic modeling; in operations, it can simulate logistics optimizations; in compliance, it can help standardize documentation flows. Such integration calls for new collaborative infrastructure: AI steering committees, shared governance protocols, and interdepartmental AI design charters. Only when GenAI is horizontally embedded does its full organizational potential emerge.

We also note some challenges which mirror the literature. Concerns about AI bias and overdependence (Wagman et al., 2025) emerged; participants occasionally questioned the accuracy of AI summaries, aligning with prior fears about data reliability. Moreover, governance gaps noted by LeanIX (2024) suggest that as GenAI's footprint grows, companies must proactively manage it to avoid uncontrolled disruptions. Thus, a practical recommendation is to pair the enthusiasm for GenAI-driven innovation with robust policies: treat GenAI as a strategic asset that requires role definitions, monitoring, and alignment with organizational goals.

The practical implication is clear: productive disruption from GenAI is most impactful when it is intentionally orchestrated, embedded in business model innovation, and treated as a strategic actor within evolving organizational networks.

Ultimately, GenAI invites a reimagining of value itself, not merely as output, but as experience, intelligence, and co-authorship. It enables the creation of AI-native services that are insight-driven, adaptive, and uniquely generative services that could not exist without the hybrid capacity of human-machine cognition. Strategic leaders must move from the logic of substitution ("what tasks can AI do?") to the logic of synthesis ("what new forms of value can emerge from human-AI partnership?"). This is the frontier of competitive advantage in the GenAI era.

6 Conclusion and Recommendations

This study sets out to investigate how Generative Artificial Intelligence operates as a nonhuman actor capable of transforming organizational networks and reconfiguring core elements of business models. Through the application of Actor-Network Theory (ANT) and the Business Model Canvas (BMC), and the innovative use of GPT-based journaling as a methodological tool, the aim has been successfully achieved. We have demonstrated that GenAI goes beyond being a technological instrument to become an active participant in shaping new forms of organizational value creation.

The findings reveal that GenAI enhances productivity through task automation, initiates cognitive transformation by supporting shifts from memorization to comprehension, and functions as a reflective partner that encourages learning and motivation. These observations affirm that GenAI takes part in the translation processes described by ANT, where it is gradually enrolled as a stable element in organizational workflows. Simultaneously, its impact on business model elements such as key activities, resources, value propositions, and cost structures illustrates its disruptive and constructive influence, validating the utility of the BMC framework.

Despite these promising insights, this study is not without limitations. The scope of the analysis was restricted to one GPT-based journaling session complemented by a limited number of audio reflections. While reflexive and triangulation strategies were applied, the dual role of the researcher as tool designer and analyst may introduce interpretive bias. Moreover, the findings, while rich in insight, may not be generalizable without broader and more diverse datasets.

Future research should expand the participant pool across industries and geographies and adopt longitudinal designs to capture the evolution of GenAI's organizational role over time. Comparative studies between firms with mature versus emerging GenAI integration practices could yield valuable contrasts. Quantitative assessments of GenAI's performance impact, coupled with policy-oriented studies on governance and ethical deployment, will further strengthen this emerging field.

This research reinforces the view that GenAI is not merely a technology to be adopted, but an actor to be understood, engaged with, and strategically integrated. Its potential as a productive disruptor lies in the hands of organizations that are prepared not only to embrace disruption but to design innovation through it.

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