SHADOW GENERATIVE AI IN FIRMS: AN EXPLORATORY CASE STUDY OF B2B SALES

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Abstract

The rapid diffusion of generative artificial intelligence (GenAI) has led to widespread, informal, and unsanctioned use within organizations. Although prior research has primarily examined such "shadow use of GenAI" through individual-level adoption and personal innovation perspectives, we know little about how this use becomes embedded in everyday business processes. This exploratory qualitative study draws on semi-structured interviews with senior professionals to examine how shadow GenAI is enacted in practice, using business-to-business (B2B) sales contexts as a case study. The findings suggest that sales employees routinely use GenAI tools outside formal governance structures, particularly for cognitively demanding activities. Interview evidence further reveals the creation and repeated reuse of GenAI-generated artifacts, which increasingly function as inputs into downstream sales activities. The paper shows that shadow GenAI functions as a set of shadow technologies-in-practice in B2B sales: salespeople appropriate GenAI, routinize particular usage patterns, and come to rely on GenAI-mediated routines. These insights help explain how shadow GenAI reshapes business processes and inform managerial responses to informal GenAI use in teams.

Key words: generative AI, shadow IT, personal innovation, B2B sales, sales process

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Introduction

Emerging evidence suggests that generative artificial intelligence (GenAI) use in organizations is already widespread and frequently informal. A recent survey of 576 public managers from seven EU states shows that 30% already use GenAI tools in their daily work and that a further 44% plan to adopt them, often outside formal institutional frameworks, a phenomenon the authors term the "shadow use" of GenAI (Tangi et al., 2025). These dynamics are particularly pronounced in contexts where decisions rely heavily on sensemaking, problem framing, and preparation, such as in B2B sales (Ahearne et al., 2022). Indeed, in B2B sales, many salespeople

turn to commercially available GenAI tools and integrate them into their everyday work practices (McClure et al., 2024; Rodriguez & Peterson, 2024).

While research on shadow use of GenAI is still nascent, it has taken important first steps in explaining these phenomena. The technology adoption literature emphasizes why employees privately experiment with GenAI and how shadow practices emerge from mismatches between official systems, local task demands, and perceived autonomy (Haag et al., 2019; Waters-Lynch et al., 2024). Work on collaborative AI, by contrast, highlights how individuals coordinate cognitively with GenAI and shows that such metacognitive capabilities influence the quality of human-AI collaboration at the task level (Sidra & Mason, 2025). They primarily focus on why individuals adopt GenAI and how they interact with it in isolated episodes, rather than on how informal GenAI use becomes embedded in organizational processes and reshapes everyday work beyond isolated tasks. To address this gap, we adopt an exploratory qualitative approach to examine how shadow GenAI is used and embedded in B2B sales. Drawing on semi-structured interviews with experienced sales professionals, we aim to answer the following research question: How does informal GenAI use evolve from occasional support into process-embedded reliance that reshapes organizational work practices?

Using the practice lens (Orlikowski, 2000), the study conceptualizes GenAI as a set of technologies-in-practice enacted through everyday work. It develops an empirically grounded account of shadow GenAI in the specific context of B2B sales, showing how these technologies-in-practice quietly become infrastructural to sales work. In doing so, the study extends research on shadow AI by shifting the analytical focus from individual adoption and episodic interaction to the process-level embedding of informal GenAI use. As a result, the study provides managers with concrete signals for when to surface AI-mediated routines, assess their risks and benefits, and either formalize or redesign them.

1 Literature review

Informal technology use in firms has long been examined through the shadow IT literature. In cognitively demanding domains such as B2B sales, these dynamics become particularly visible. B2B selling has shifted from transactional to consultative and enterprise models, in which salespeople work with multiple stakeholders to reach a decision (Ahearne et al., 2022). As selling becomes more complex, performance depends less on standardized execution and more on sensemaking and strategic thinking (Rodriguez & Peterson, 2024). To understand how these cognitive demands translate into performance, sales process research conceptualizes selling as

a set of interdependent activities like prospecting, opening, qualifying, presenting, closing, servicing, through which value is co-created (Fehrenbach et al., 2025). Because preparatory work often stretches existing systems and templates, salespeople are likely to seek additional tools to manage information and tailor proposals. The shadow IT literature conceptualizes such unsanctioned tool use as a response to system misfit and local task demands, typically emerging when official systems are restrictive or misaligned with work practices (e.g. Haag et al., 2019). To overcome these obstacles, employees adopt their own tools, such as spreadsheets or personal databases, creating parallel infrastructures that may be invisible to management yet critical to everyday operations. Historical accounts of "shadow Excel" show how unofficial spreadsheets, initially created to solve local problems, became recurrent inputs into reporting and decision-making routines (Handel & Poltrock, 2011).

Shadow use of GenAI follows a similar logic but with a significant difference. Whereas classic shadow IT tools primarily store and recombine representations, conversational GenAI interactively generates and revises them, and can even create auxiliary tools (such as macros or codes) that accelerate the externalization and reuse of cognitive work in complex tasks (Sidra & Mason, 2025). Early workplace GenAI use largely fits the classic shadow IT pattern: employees privately deploy public GenAI tools for drafting emails, summarizing documents, and capturing local productivity gains that remain invisible to management (Waters-Lynch et al., 2024). Some authors explain such practices as "shadow user innovation," in which employees experiment privately with GenAI and keep beneficial practices hidden (Waters-Lynch et al., 2024). Parallel research on collaborative AI highlights a complementary mechanism for understanding GenAI use in work. It shows that performance in human-AI collaboration depends not only on access to GenAI tools but also on users' ability to plan, monitor, and reflect on their use, which Sidra and Mason (2025) term "collaborative AI metacognition". From this perspective, those with stronger skills are more likely to turn one-off experiments into stable, routine ways of working with GenAI.

What we know about shadow GenAI is therefore based mainly on two streams of research: adoption-oriented accounts that explain why employees experiment with GenAI informally, and interaction-focused accounts that examine how individuals coordinate cognitively with AI tools. While these studies have generated important insights, they remain largely at the individual level and offer limited understanding of how informal GenAI use becomes embedded in organizational processes. For example, in B2B sales, we do not yet understand how shadow GenAI use becomes integrated into recurring activities and routinized in sales processes. This study thus explores how informal GenAI use evolves from occasional

support into process-embedded reliance that reshapes organizational work practices drawing on a case study of B2B sales.

2 Methodology

Consistent with our research question, this study adopts a qualitative, interpretive design to examine how informal GenAI becomes embedded in B2B sales work over time. A qualitative approach is appropriate because shadow GenAI use is often uneven, emergent, and institutionally invisible, making it challenging to capture through formal systems or quantitative measures (Edmondson & McManus, 2007). The study adopts an interpretivist stance and practice lens (Orlikowski, 2000), viewing GenAI as a set of technologies-in-practice enacted in everyday sales work rather than a fixed, deterministic system. From this perspective, the analytical focus lies on how salespeople appropriate GenAI, routinize specific usage patterns, and in doing so constitute structures that shape subsequent work practices.

Data were collected through interviews with four experienced B2B sales professionals who had used GenAI informally and outside formal governance structures for more than six months. Participants were selected through purposive sampling (Patton, 2015) based on three criteria: (1) recurring use of GenAI in customer-facing sales activities, (2) use outside formally sanctioned organizational systems, and (3) involvement in cognitively demanding preparatory tasks such as proposal development, pricing configuration, or presentation design. Participants were identified through the authors' professional networks. Given the exploratory nature of the study, emphasis was placed on information-rich cases rather than on numerical breadth. Following the critical incident technique (Flanagan, 1954), the interviews followed a semi-structured format, in which participants answered guiding questions and were encouraged to provide concrete examples and incidents. Each interview lasted 60-90 minutes, was conducted via video conferencing, audio-recorded with consent, and transcribed verbatim. Participants described critical incidents in which GenAI played a meaningful role in their sales work, focusing on how AI-generated outputs were created, reused across sales episodes, and relied upon in subsequent activities, enabling identification of recurring patterns indicative of process embedding rather than isolated task use (Gremler, 2004; Langley, 1999). Interview transcripts were analyzed using an interpretive, process-focused approach (Langley, 1999) that examined how informal GenAI use develops and becomes part of everyday sales work over time. The analysis began with inductive coding of interview examples and iterative movement between

emerging categories and existing theory to identify patterns of artifact creation, reuse, and growing reliance on GenAI outputs.

3 Findings

The analysis shows how shadow GenAI use in B2B sales shifts from occasional task support to process-embedded reliance. Across the interviews, salespeople first "try out" GenAI on low-risk tasks, then use it as a thinking partner in complex preparation, set up reusable configurations, and gradually come to experience these GenAI-mediated routines as essential for meeting speed and quality expectations. This evolution manifests through four patterns. The first pattern reveals that, after simple, low-stakes tasks, GenAI was drawn over time into more cognitively demanding parts of the preparation process. One salesperson explained:

> *"We knew the quantity of dispensers… and the monthly consumption of other types of products… and really, I discussed this with the AI: how to give a good proposal such that we can demonstrate efficiency with a different product."*

Consequently, GenAI was not merely producing text but was engaged as a cognitive partner, helping to work through proposal logic, and becoming part of the salesperson's usual way of "*figuring out*" offers rather than a one-off drafting aid.

A second pattern concerns how stable GenAI configurations and outputs become standard inputs for core activities, especially proposals. One interviewee described creating a reusable custom GPT configured with the company introduction, preferred tone, and instructions for reading uploaded tables:

> *"I have a GPT called Superwoman calibrated to use less formal language, so it's not obvious it's ChatGPT. She has uploaded information on prices and minimum margins, so when I ask her to create a proposal, she does… proposals most often… because that is where we have the biggest time requirement invested."*

In this case, GenAI use moves beyond ad hoc prompting towards stable configurations that structure recurring tasks, effectively enacting a technology-in-practice for proposal creation.

The third pattern emerged as these artifacts and routines became embedded in everyday work; interviewees described a growing sense of dependency. One participant reflected:

> *"…my everyday work would be a mess without GenAI… it just jumps in with creative ideas, quickly gives solutions… without it I would need to create prezies slide by slide… definitely we would suffer [as a company]…"*

Pre-GenAI preparation was contrasted with "*losing a whole day*" digging through catalogues, old offers, and Excel files, with the current practice of asking GenAI to generate macros that automatically calculate prices and margins for different setups. Although the interviewee did not know how to program macros himself, he relied on them and stated that losing GenAI would mean "*going back to the Middle Ages*". Here, GenAI is involved in both structuring offers and producing macros that operationalize pricing. The salesperson experiences these routines as essential to meeting quality expectations, even though their use remains in the shadows.

The fourth pattern shows GenAI shaping how the workday is organized. One salesperson depicted ChatGPT as an "assistant" that jumps in with creative ideas, rapidly produces presentations and tables from data:

> *"If they had to look at products from catalogs or browse the net, that would obviously be slower than asking a question and getting an answer."*

ChatGPT is therefore perceived to free time for higher-level strategic thinking ("*helicopter view*"). Routine drafting, formatting, and slide building are delegated to GenAI, while the salesperson focuses on higher-level judgment and strategic framing. In these accounts, GenAI operates as background support that sets the tempo of everyday work and functions as a shadow technology-in-practice that underpins daily activity without being institutionally recognized.

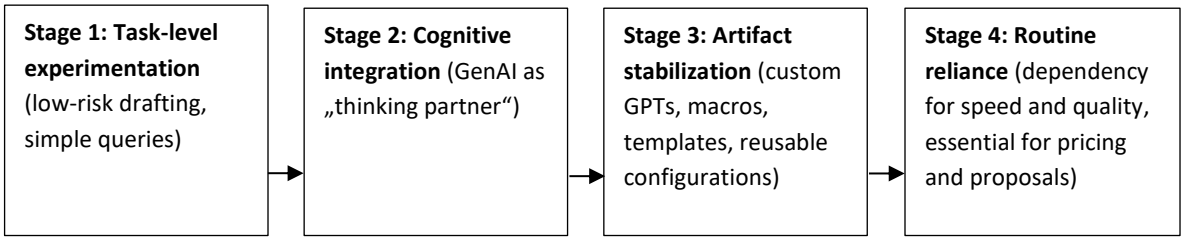
Finally, the interviews reveal limits to how far GenAI-based routines can be trusted. One participant reported excellent results with GenAI on a relatively small, well-structured product set, but severe errors when scaling to thousands of SKUs:

> *"When I worked with 100 SKUs, it worked perfectly… but when we gave it 6,000 SKUs, it didn't succeed. It gave wrong data… completely senseless pairings."*

These cases indicate that shadow technologies-in-practice around GenAI become deeply embedded only where outputs are reliable enough to support repeated reuse; where reliability degrades, human verification and manual work cap how far reliance can go.

Taken together, these four patterns describe a progressive embedding of shadow GenAI into sales processes, moving from exploratory use to routinized reliance (Figure 1).

Fig. 1: Process model of shadow GenAI embedding in B2B sales processes



Source: Own research

4 Discussion

This study shows how informal GenAI use in B2B sales evolves from low-stakes experiments into process-embedded reliance, as salespeople increasingly use GenAI as a thinking partner for complex preparation and repeatedly draw on reusable setups (custom GPTs, macros, templates) in proposal and presentation work. Over time, these AI-generated outputs become standard inputs into core activities, and interviewees describe feeling unable to maintain expected speed and quality without them, even though their use remains unsanctioned and largely invisible.

The findings extend the existing understanding of shadow GenAI in several ways. They show that informal GenAI use persists not only because it is privately beneficial, but because GenAI-mediated ways of working become embedded in recurring sales routines rather than remaining isolated experiments. They also enrich practice-based (Orlikowski, 2000) and collaborative AI perspectives (Sidra & Mason, 2025) by demonstrating that everyday human-AI interaction in sales gives rise to routinized technologies-in-practice, such as custom GPTs, macros, and proposal templates, whose influence shapes work across multiple episodes. In addition, they contribute to sales process theory by showing that GenAI reshapes value creation primarily through the preparatory phase of consultative selling, not merely by improving efficiency, but by reorganizing how proposals, pricing logics, and presentations are structured and supported.

Viewing shadow GenAI as a network of shadow technologies-in-practice clarifies why it is both an opportunity and a challenge. Process-level dependencies can arise without formal adoption, as salespeople build their own AI-based infrastructures that become critical for revenue-generating activities. This helps explain why simple prohibition is unlikely to succeed and why organizations instead need to decide where to formalize, support, or redesign these AI-coupled parts of the sales process. For managers, this implies, first, that where salespeople experience GenAI as indispensable, they should secure stable access or supported alternatives and develop contingencies for tool outages or policy changes. Second, GenAI-originated artifacts, such as prompt libraries, custom GPTs, macros, and reusable decks, should be treated as a new class of sales enablement assets to turn scattered experiments into shared capabilities. Third, because the most substantial benefits arise from skillfully structured and evaluated human-AI interactions, organizations should invest in collaborative AI skills as a core sales capability.

4 Conclusion

This paper examined how shadow GenAI in B2B sales evolves from experimental use into routinized, often hidden ways of working that shape core sales activities. It reconceptualizes shadow GenAI as a set of shadow technologies-in-practice, GenAI-mediated routines and artifacts that salespeople come to rely on in their everyday work. Our findings explain how these routines might emerge, become taken for granted, and, under favorable conditions, are experienced as necessary to maintain expected speed and quality, while also revealing limits where GenAI remains unreliable. This offers a concise, practice-based account of how informal GenAI use becomes embedded in B2B sales processes and sets the stage for future research on how organizations might recognize, support, or redesign these emergent human-AI routines.

Given the small, purposive sample, the findings are exploratory and aimed at theory building rather than statistical generalization. Still, participants' sustained shadow GenAI experience offers credible insight into how informal GenAI becomes embedded in the B2B sales process. Also, insights from other sectors could provide additional understanding of shadow GenAI. Future research should examine the soft skills needed for effective collaboration with GenAI in B2B sales, and how differences in these capabilities shape the quality of everyday human-AI coordination. It should also investigate how specific sales activities, especially preparatory work, are reorganized by ongoing GenAI support. Finally, research should assess the observable benefits of GenAI-supported cognitive work for both salespeople and customers.

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