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AI-in-the-making in strategy work

A sociomaterial study of human-GenAI strategizing in SMEs

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ABSTRACT:

Teknologinen kehitys tarjoaa jatkuvasti uusia mahdollisuuksia muuttaa rutiineja työssä ja vapaa-ajalla, ja yritykset hakevat teknologiasta mahdollisuuksia tehostaa toimintaa ja hakea kilpailuetua. Generatiivisen tekoälyn käytöstä yrityksissä puhutaan laajasti, mutta sen käytöstä on vielä niukasti kokemusta etenkin strategiatyössä. Tämä tutkimus tarkastelee tapoja hyödyntää generatiivista tekoälyä suomalaisissa pienissä ja keskisuurissa yrityksissä laadullisella tapaustutkimuksella. Tavoitteena on selvittää kuinka ihmisen ja generatiivisen tekoälyn yhteistyöllä voidaan parantaa luovuutta ja päätöksenteon laatua strategiatyössä. Tutkimus hyödyntää teorioita sosiomateriaalisuudesta ja diskursiivisuudesta, sekä ihmisen ja tekoälyn vuorovaikutuksen luonteesta pohjana tämän tutkimuksen teoreettiselle viitekehyselle.

Generatiivinen tekoäly on ollut markkinoilla vasta muutaman vuoden, joten tutkimusaineistoa ja kokemuksia sen hyödyntämisestä strategiatyössä varsinkin pk-yrityksissä on vielä rajallisesti. Tämä tutkimus täydentää tutkimuskirjallisuutta käsittelemällä tekoälyn käyttöä käytännön näkökulmasta neljässä suomalaisessa yrityksessä. Tutkimusaineistona käytetään yritysten edustajien haastatteluita, ja lisäksi näkökulmaa laajennettiin kahden strategiakonsultin haastatteluilla. Tulokset osoittavat että generatiivinen tekoäly on monipuolinen työkalu strategisen ajattelun kehittämiseen, strategiaprosessin nopeuttamiseen ja fasilitointiin, sekä yrityksen strategisen suunnan määrittämiseen. Tekoälyn käyttöönotto strategiatyössä vaikuttaa työn luonteeseen huomattavasti, ja vaatii uusia käytäntöjä, taitoja, ja käytännön työtä. Strategiatyökalun kehittäminen on yritysکوhtainen, yksilöllinen prosessi, jonka lähtökohdat ja kehityssuunnat ovat sidoksissa yrityksen, työntekijöiden ja teknologian historiallisiin, kulttuurisiin, ja maailmankuvallisiin tekijöihin. Sosiomateriaalinen kokonaisuus tuo jokaiseen yritykseen yksilölliset esteet ja ajurit strategiatyökalun kehittämiseen, mutta tutkimuksen tulokset osoittavat että työntekijöiden utelias asenne ja halu oppia yhteisöllisesti käytännön kokeilun kautta voivat johtaa strategiatyön kehittymiseen vahvistuvan reflection, laajentuneiden strategisten mahdollisuuksien kartoittamisen, ja uusien strategiatyökalujen kehittämisen myötä. Ihmisten luovuus ja kyky luoda merkityksiä generatiivisen tekoälyn fasilitoimana on yhä keskeinen laatutekijä strategiatyössä myös pk-yrityksissä. Siitä johtuen käytännöt joilla tuetaan uuden oppimista ja vähennetään uuden tilanteen aiheuttamaa emotionaalista ja kognitiivista rästusta ovat olennaisia onnistuneelle työkalunrakennukselle.

KEYWORDS: artificial intelligence, generative AI, GenAI, strategy work, practice, human-computer interaction, small and medium-sized enterprises

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ABSTRACT:

Technological advancements are constantly offering new opportunities to transform routines at work and in leisure time, and companies are turning to technology to streamline their operations and gain a competitive edge. There is widespread discussion about the use of generative AI in companies, but there is still limited experience with its applications, particularly in strategy work. This study examines ways to utilize generative AI in Finnish small and medium-sized enterprises through a qualitative case study. The aim is to investigate how collaboration between humans and generative AI can improve creativity and the quality of decision-making in strategizing. The study draws on theories of sociomateriality and discursivity, as well as the nature of human-AI interaction, to form the theoretical framework for this research.

Generative AI has only been on the market for a few years, so there is still limited data and experience regarding its use in strategy work, particularly in small and medium-sized enterprises. This study contributes to the research literature by examining the use of AI from a practical perspective in four Finnish companies. The research data consists of interviews with company representatives, and the perspective was further expanded through interviews with strategy consultants. The research shows that generative AI is a versatile tool for developing strategic thinking, accelerating and facilitating the strategy process, and defining a company's strategic direction. The adoption of AI in strategy work significantly impacts the nature of the work and requires new practices, skills, and hands-on effort. The development of a strategy tool is a company-specific, individualized process, whose starting points and directions are linked to the historical, cultural, and worldview factors of the company, its employees, and the technology. The sociomaterial context presents each company with unique barriers and drivers for developing a strategy tool, but the research results show that employees' curious attitude and willingness to learn collaboratively through practical experimentation can lead to the development of strategy work through strengthened reflection, the mapping of expanded strategic opportunities, and the development of new strategy tools. Human creativity and the ability to create meaning, facilitated by generative AI, remain a key quality factor in strategic work, even in SMEs. Consequently, practices that support learning and reduce the emotional and cognitive strain caused by new strategizing context are essential for successful tool development.

KEYWORDS: artificial intelligence, generative AI, GenAI, strategy work, practice, human-computer interaction, small and medium-sized enterprises

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1 Introduction

1.1 Motivation for the study

Technological development has been rapid in recent years, changing practices across industries. Digital transformation and implementation of artificial intelligence (AI) are affecting many areas of strategizing, including decision making, practices, and cognition (Kohtamäki et al., 2025, p. 309). Sociomaterial practices are foundational to establishing the nature of AI's performativity (Scott & Orlikowski, 2025). Strategizing in the landscape of digital transformation requires changes in routines, organizational structures, and cognitive factors to create a competitive advantage (Volberda et al., 2021, p. 13). A forecast projects a 76 percent increase in total global spending on generative AI (GenAI) to 644 billion dollars in 2025, compared with 2024 (Gartner, 2025). Furthermore, a recent McKinsey report states that the use of generative AI is increasing significantly, with executives being the most eager adopters, but adoption in strategy and corporate finance functions was as low as 11% overall compared to marketing and sales, which topped the chart with 42% overall adoption rate (Singla et al., 2025). However, small- and medium-sized firms (SMEs) in Europe have been slow to adopt advanced digital technologies due to perceived difficulties and costs (Segarra-Blasco et al., 2025, p. 734). The key feature of AI is automated decision-making (Berente et al., 2021, p. 7), and research on explainable AI seeks to integrate insights from technology, the social sciences, and human-computer interaction to help humans understand and trust AI (Miller, 2019, p. 2).

While there are promising examples of AI use in strategy, many unanswered questions remain about how humans and AI could collaborate efficiently. AI can be used to create and analyze strategies, and it changes strategizing practices while relaxing the constraints of bounded rationality in strategic decision-making processes (Csaszar et al., 2024, p. 333). AI

can also compete successfully in strategy simulations against experienced human opponents (Mudassir et al., 2024). Although predictions from generative AI models may be biased and inaccurate, AI-generated insights can be valuable for humans in discovering strategies, even in complex and uncertain contexts (Doshi et al., 2025, p. 604). Researchers also state that hybrid problem-solving by humans and AI enables a broader and deeper range of outcomes than collective problem-solving by humans (Raisch & Fomina, 2025, p. 457). However, to capture value from human-AI teaming, processes of negotiating interoperability, building trust, and producing mutual knowledge are required (Simón et al., 2024, p. 7).

1.2 Research gap

Social structures affect all practical work, and the same applies to technology: its design and use are bound to social and cultural factors. Strategizing is analyzing, planning, and implementing strategic decisions in the interplay of practices, practitioners, and praxis (Kohtamäki, 2022). From the strategy-as-practice (SAP) perspective, strategizing is an interconnected phenomenon among who practitioners are, how they act, situatedness, and socially constructed praxis, and among cognitive, behavioral, discursive, and physical practices (Jarzabkowski et al., 2007, p. 11). Strategizing has different implications at the micro, meso, and macro levels (Jarzabkowski & Spee, 2009), and there are attempts to bridge these levels through practices, individual agency, and sociomateriality (Whittington, 2025). Strategy tools are boundary objects, and the design of the tools, as well as actors' different ways of using them, may affect the strategy process and results (Spee & Jarzabkowski, 2009, pp. 223–224). Sociomateriality conceptualizes technology use as an enactment of a relational process in which social and material factors, as well as human and technological agencies, are inseparable (Orlikowski, 2000, p. 407). Furthermore, sociomateriality is closely linked to strategic discourse (Kohtamäki et al., 2022, p. 223), and language and text shape strategizing (Pälli, 2018). Discursive practices and sociomaterial settings affect power dynamics,

practices of sensemaking, and the negotiation of ideas in strategizing (Balogun et al., 2014, pp. 185–186). The use of technology is socially constructed and seems to have fundamental changes in people’s behavior, praxis, and strategy practices.

Implementing AI into strategizing requires processes that enable the leveraging of both human and artificial intelligence strengths in cooperation. AI can be described as a frontier of information systems development, with an ever-expanding range of possible contexts of use (Berente et al., 2021, p. 12) and as an attempt to replicate the way human cognition learns and processes information (Enholm et al., 2022, p. 1712). AI is a constellation of relations with external and internal entities that are increasingly embedded into the core of organizational processes, enabling or constraining organizational actors (Bailey et al., 2022, p. 3), and an active but inscrutable agent affecting organizational processes through interaction (Anthony et al., 2023, p. 1680). While AI technology does not understand relational contexts, humans must take responsibility for the design, implementation, and use of the technology (Pakarinen & Huising, 2025, p. 2072).

The way AI produces outputs might be difficult for people to understand, and learning requires cognitive processes. Coordinating the sociocognitive processes of collective memory, attention, and reasoning in humans and AI enables adaptive responsiveness to environmental changes (Gupta et al., 2025, pp. 200–201). The main feature of AI is autonomous decision-making that is enabled by large amounts of data, and AI’s three intertwined facets, autonomy, learning, and inscrutability, present managerial challenges for human-AI collaboration (Berente et al., 2021). The use of AI to replace or enhance tasks done by humans is enabled or inhibited by technological (access to data and technological infrastructure), organizational (for example, culture and employees’ readiness and trust towards AI), and environmental factors (ethical factors and regulation) (Enholm et al., 2022, p. 1716). In addition, adoption of AI requires management of cognitive and emotional trust (Vuori et al., 2025, p. 32), sensemaking processes for workplace learning (Engström et al., 2024, p. 2443),

and understanding how differences between forward-looking theory-based human cognition excels at decision making under uncertainty, and backward-looking prediction-based AI can process large data sets faster than humans (Felin & Holweg, 2024, p. 347). Based on these results, implementing AI requires multifaceted managerial attention and collective learning.

Possible benefits of human-AI collaboration seem to depend on environmental factors and skills at individual and team levels. Managers need to carefully consider how to combine the strengths and limitations of human and AI problem-solving, depending on the nature of the task and the availability of suitable data, especially in uncertain environments (Sako & Felin, 2025, p. 21). The choices of using AI to automate or augment tasks are dynamically interdependent, and organizations should manage the tensions between the two carefully to achieve optimal deskilling and learning (Raisch & Krakowski, 2021, pp. 201–202). Utilization of company-specific AI enhances strategy creation and implementation by improving data processing, strategy processes, and the ability to respond more quickly to strategic issues (Laamanen et al., 2025, p. 7). Interestingly, employees with more domain expertise tend to have more aversion toward algorithms because of expected inaccuracies (Allen & Choudhury, 2022, p. 165), but human-AI ensembles without specialized members can enhance decision-making quality by human-related diversity and data to reduce AI's predictive error (Choudhary et al., 2025, p. 555). Successful adoption of AI requires effort to turn frustration into enthusiasm and to develop processes through collective experimentation and personal dedication to continued learning (Shekshnia & Yakubovich, 2025, pp. 63–64). The effective practices for implementing AI into collaborative strategizing seem to depend on competencies and a willingness to learn collectively, as well as on AI's ability to analyze given tasks.

It is unclear exactly how AI can be leveraged in collaboration with humans for strategizing. Research suggests that AI might not be able to generate creative strategies under

uncertainty (Weiser & Von Krogh, 2023, p. 715), but the opportunities to team AI and humans in strategizing should be studied (Choudhary et al., 2025, p. 559; Felin & Holweg, 2024, p. 362). Studying the implementation of AI into strategy work could provide insights about strategic thinking (Csaszar et al., 2024, p. 336), the nature of knowledge (Jarzabkowski et al., 2025, p. 64), new strategizing practices (Zhou et al., 2025, p. 390), and tradeoffs on attention control caused by the opacity of AI (Laamanen et al., 2025, p. 9). Weiser and Von Krogh (2023) see potential in generative AI to enable humans to strategize creatively but call for more research on how to negotiate conflicting interpretations of AI-generated information and on the risks of faster decision-making enabled by AI (p. 715).

Hence, this study responds to the call from Kohtamäki et al. (2025, p. 319) for “studies on how technologies affect strategy processes, practices, or discourses”. Furthermore, the authors add that “there is limited research on AI in strategic analysis, choice, and implementation”. Additionally, Jarzabkowski et al. (2025) acknowledge the need for studies exploring opportunities and threats related to strategizing with AI (p. 63). Raisch and Fomina (2025) emphasize the importance of research on the creative role of humans in facilitating AI use when reliable or useful data are unavailable (p. 458). To improve the focus on context, Carayannis et al. (2025) note that “studies could focus on how SMEs can better incorporate AI insights into strategic planning and operational agility, particularly in resource-constrained environments” (p. 15).

1.3 Research problem and theoretical contribution

Based on the arguments outlined above, further research is needed on the evolving landscape of collaborative human-AI strategizing. Opportunities for improved strategizing may exist if opacity barriers can be eliminated. This study primarily focuses on using generative AI in human-AI collaboration strategizing, and the research question is:

How do sociomaterial arrangements of people and GenAI tools in SME strategizing shape perceived creativity and decision quality outcomes?

This study will more specifically focus on the dynamics of human-AI collaboration from a discursive-sociomaterial perspective. Furthermore, the study aims to identify which strategy tool-making practices emerge as strategists negotiate AI-generated insights in strategy work under uncertainty. While the study focuses on generative AI in the interviews and data analysis, the literature review treats AI as a broader concept encompassing multiple technologies. The study of SMEs will focus on resource-constrained companies employing a qualitative research method. Managers from four case companies will be interviewed to collect primary data, and secondary data will be obtained from public sources. The aim is to have two companies with experience in strategizing utilizing AI and two companies with less experience to compare situations.

The study's contributions are threefold. First, the study contributes to the understanding of the factors that affect creativity and quality in strategizing with generative AI. Second, the study will provide insights into the cognitive and emotional processes that enable collective learning and negotiation while integrating generative AI into strategizing. Third, the study's contributions can serve as a framework for implementing AI into SME strategizing. AI is becoming an everyday tool, even in SMEs, and it is natural for managers to leverage every digital opportunity to improve decision-making and mitigate the effects of bounded rationality. Quickly evolving AI has shown its potential in many functions, but strategizing has remained a human-centric task due to complexity and uncertainty. This study aims to offer practical insights into the implementation of AI from sociomaterial and discursive perspectives. The study can help managers better understand the drivers and barriers to developing a strategy tool using generative AI, including collective learning, sensemaking, and AI-related trust issues.

1.4 Thesis structure

In the first chapter, this study discusses the context for strategizing with generative AI in SMEs and the study's purpose. Furthermore, the chapter outlines the research question and research structure. The second chapter introduces theories and prior literature on strategizing from the perspective of strategy-as-practice and artificial intelligence. The third chapter describes the methodology, data collection, and data analysis, followed by the fourth chapter, which presents the study's findings. The final chapter discusses the theoretical and managerial implications, including the study's limitations and suggestions for future research.

2 Literature review

This chapter begins with a discussion of the relevance of generative AI for strategizing in SMEs. The theoretical section continues with reviews of two broad research streams. The first is strategizing from a strategy-as-practice perspective, including substreams of discourse, sensemaking, and sociomateriality in strategizing. The second stream includes research on human-AI collaboration in a strategy context. Next, the combination of the theoretical perspectives is discussed in the context of SMEs. Finally, the theoretical framework synthesized from the literature is presented.

2.1 The relevance of generative AI for SMEs

Nearly all companies in the EU and Finland are SMEs (Eurostat, n.d.); therefore, SME competitiveness is significant for the national economy. Under the European Union's definition, a company is an SME if it has fewer than 250 employees and either its turnover is under 50 million or its balance sheet total is under 43 million euros (European Commission, 2003). Carayannis et al. (2025) state that the resilience and adaptability of SMEs can be enhanced by supporting short-term reactive decision-making with AI-driven horizon scanning and long-term foresight that combines AI with scenario planning methods (p. 15). However, despite the potential benefits of AI adoption, SMEs have been hesitant to adopt it due to perceived complexity and associated costs (Segarra-Blasco et al., 2025, p. 734). Use of GenAI in strategizing could offer SMEs a cost-effective solution to adapt strategy practices and decision-making to a data-driven direction. Collaborative strategizing with AI could shift strategizing toward a more continuous, frequent approach, enhancing the creativity and quality of strategic outcomes and reducing dependence on strategic consultancy. The adoption of AI in everyday strategy practices could enable SMEs to leverage limited resources more effectively, accelerate decision-making, improve consistency and quality, and reduce the

cognitive demands of data-related decisions. GenAI could be a tool to improve agility and close the gap between SMEs and larger corporations in strategic survival.

There is research on AI adoption in SMEs at a general level, but research on adopting GenAI for strategizing in Finnish SMEs is scarce, probably because the technology is relatively new. Research finds eight clusters of factors in three domains influencing AI adoption in SMEs: Organizational domain (knowledge, resources, and cultural), technological domain (compatibility and AI-readiness), and environmental domain (competition, regulation, and ecosystem factors), which together in successful adoption lead to improved processes and generation of new, improved business performance (Schwaeke et al., 2025, p. 1314). A study by Jafarzadeh et al. (2025, pp. 1017, 1029, 1031) of 11 Finnish SMEs aiming to find a business case for machine learning adoption found that companies differ significantly in the nature of their data quality and technological challenges, and uncertainty about the required investments, changes in organization, job safety, and benefits of adoption were major barriers to AI adoption. Furthermore, the researchers report that some companies shifted their focus from prior AI technologies to emerging generative AI during the project, whereas others did not achieve their objectives due to the complexity and high cost of integration, as well as difficulties in modeling socially complex phenomena such as customer behavior. AI adoption appears to affect organizations across multiple domains, and GenAI may be easier to adopt than previous AI technologies.

SMEs in the technology industry seem to be able to produce AI-related innovations, but strategic innovation using GenAI might require a different approach. Grashof and Kopka (2023) examined differences in radical innovation, measured as the number of patents, between small and large firms and reported that although large firms with application-related knowledge have an advantage in producing radical innovation, small firms with technology-related knowledge generate more technology-related radical innovations than large firms. Furthermore, they emphasize the importance of AI type and firm-specific factors in shaping

the innovation process (pp. 771, 788). Based on the presented results, SMEs might have some advantages in AI-based innovation, and probably the barriers and drivers in implementing generative AI into SME strategizing vary based on company context. Technology firms might have an advantage in the technology domain for GenAI adoption, but organizational and environmental factors, such as culture and industry conditions, may be equally significant for strategic innovation. Strategic practices likely vary widely across SMEs due to limited resources, multiple employee responsibilities, diverse industry contexts, and limited specialization in strategic matters. Decision-making may be based primarily on gut feeling and experience in the absence of structured strategy practices, strategy reports, and data. Similarly, adaptation to future opportunities and threats may be vague. The possibility of reflecting on strategic issues more frequently in collaboration with GenAI could lead to a differentiated strategy through improved creativity and higher-quality decision-making.

2.2 Strategy-as-practice

People are at the center of socially constructed practical strategy work. Strategizing is analyzing, planning, and implementing strategic decisions in the interplay of practices, practitioners, and praxis (Kohtamäki et al., 2022). From a strategy-as-practice perspective, strategizing is an interconnected phenomenon between who practitioners are and how they act, situatedness and socially constructed praxis, and cognitive, behavioral, discursive, and physical practices (Jarzabkowski et al., 2007, p. 8). Furthermore, mundane processes, practices, and micro-activities done by people may have strategic consequences, including socio-cognitive outcomes (Johnson et al., 2003, pp. 3, 11). Activities can be considered strategic based on the importance of their consequences, on being labeled as strategic or done by a strategist, or on forming a consequential, recurrent pattern (Seidl et al., 2024). Furthermore, local conditions and practices are connected to and shaped by extra-organizational influences that affect routines and improvisatory episodes of praxis (Whittington, 2006, p. 6).

Although the focus on local strategic activities is a key contribution of the strategy-as-practice lens, scholars hold varying views on the interplay between local and broader social phenomena. First, Seidl & Whittington (2014, pp. 1414–1415, 1417) define tall ontologies that explain how higher-level phenomena such as culture, discourse, and technology affect lower-level practices. By contrast, they also state that flat ontologies position influences within networks of vertical hierarchy, for example, allowing equal status to human and non-human actors. The interplay of wider and local influences is emergent and sociomaterial in nature, and has constraining and enabling effects on strategizing through diversity of actors and improvisatory practices (Vaara & Whittington, 2012, p. 324). Practices have an internal tension between being recursively routinized and adaptively evolving in socially constructed interaction among practitioners, praxis, and micro- and macro contexts (Jarzabkowski, 2004, pp. 539, 544–545). Macro perspectives of historical embeddedness and global influences should be balanced with micro contexts of particular organizations to obtain a clear understanding of strategic options (Vaara & Whittington, 2012, pp. 212–213). It seems that the successful implementation of, for example, new technology into strategizing requires an understanding of an organization's ability and willingness to change its culture and everyday praxis.

While some strategic outcomes are easier to quantify than others, multi-level interdependencies between factors of strategy implementation make the assessment even more demanding. Strategy-as-practice scholars argue that strategy implementation and the management of strategic change are multifaceted, practice-based considerations, and that factors such as actors' identities and discursive-sociomaterial practices are consequential in strategizing, as are traditional financial, organization-level performance factors (Jarzabkowski et al., 2025, pp. 55–56, 62). Consequentiality is defined in this context either as intended and significant or as unintended but significant effects of patterns of action (Jarzabkowski et al., 2021, p. 6).

Below are two frameworks that describe the strategy process, combining the most prominent themes of strategy-as-practice. Weiser et al. (2020) propose an integrative model of strategy implementation (see Figure 1), in which various actors are involved in the entire strategy process, enabling the interplay of structural strategy and adaptive enactment through socially constructed interactions that facilitate coordination, integration, and continuous feedback to develop the strategy (p. 987). Burgelman et al. (2018) suggest a combinatory framework for strategy process and practice that explains actors' participation in strategy process through enabling and constraining sociomaterial and discursive practices for addressing issues in strategizing episodes (see Figure 2). Furthermore, they consider the strategy process an ever-evolving stream of emergent and deliberate influences that recursively give rise to realized strategies. Their model includes central themes of strategy-as-practice, such as micro and macro perspectives, agency, structural, cognitive, and emotional factors, and the previously mentioned material and meaning-making issues (pp. 540–542). The figure below illustrates the model.

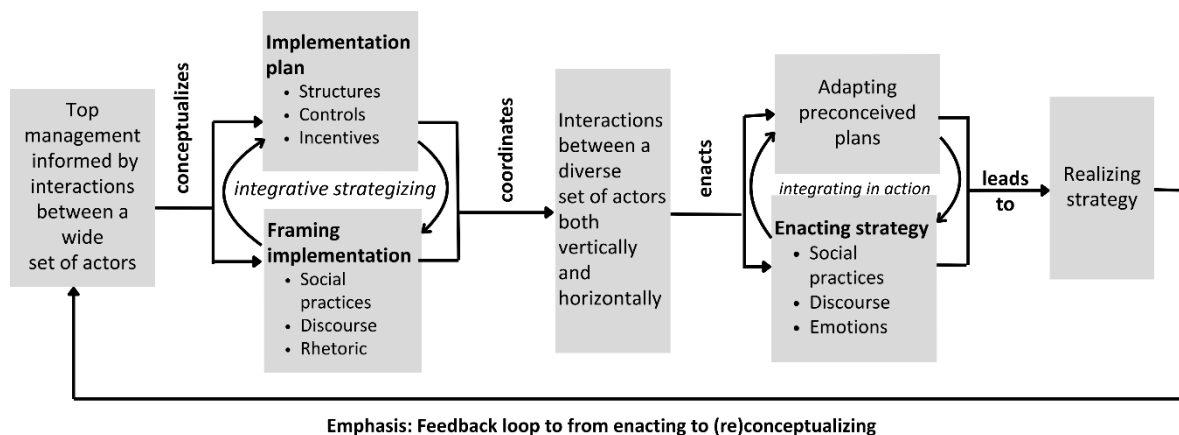


Figure 1. Integrative model of strategy implementation (Weiser et al., 2020, p. 987).

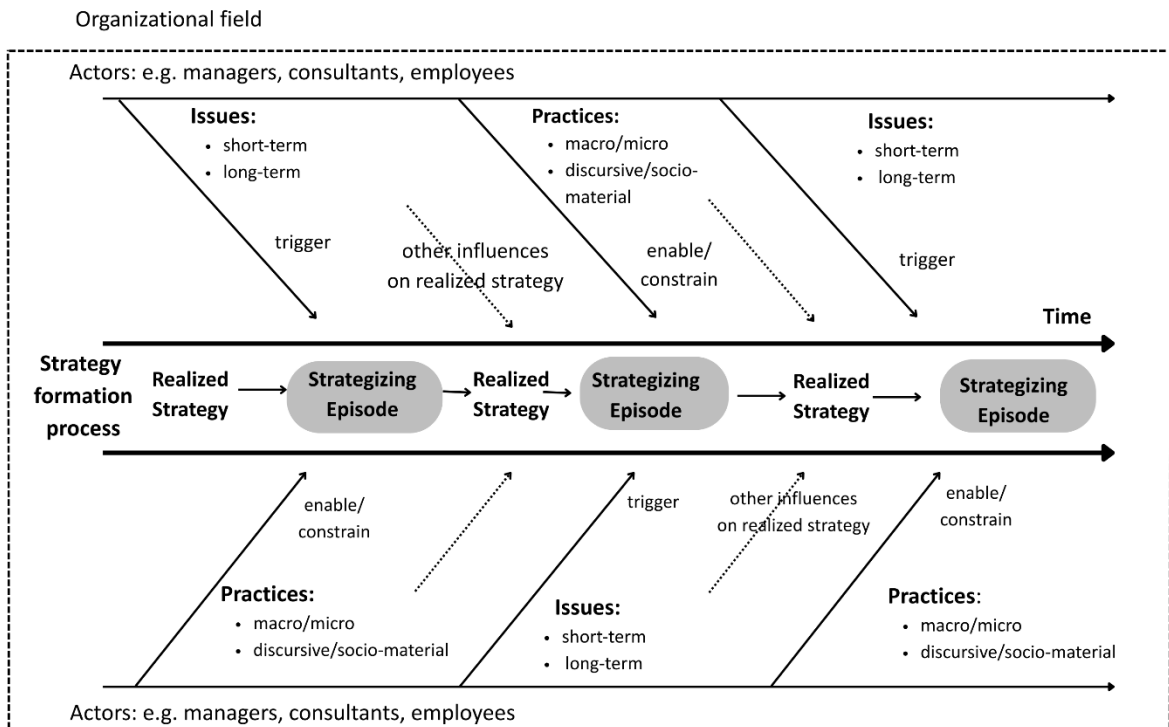


Figure 2. Combinatory framework of strategy as process and practice (Burgelman et al., 2018, p. 541).

2.2.1 Background of strategy-as-practice perspective

Focusing on the effects of micro-level strategy work began approximately 30 years ago. The strategy-as-practice perspective has been established primarily in Europe, reflecting the European intellectual tradition, to study practices within the strategy process (Prashantham & Healey, 2022, p. 2). Antecedents of strategy-as-practice include strategy process literature about strategy emergence, ideas about strategy as discourse, and insights into the role of middle managers in strategy (Jarzabkowski et al., 2025, pp. 57–58). Strategy-as-practice research has been characterized by the inclusion of multiple research streams and pluralism of concepts (Jarzabkowski et al., 2022, p. 1737). The movement began to develop when Whittington (1996) called for more research on managers' practical strategizing at the local

level, focusing on the skills, knowledge, routines, and roles required for everyday strategy work.

Research on practical strategy has expanded rapidly to encompass multiple elements and their interconnectedness in daily work. The development phases of the strategy-as-practice movement, according to Jarzabkowski et al. (2022), can be divided into three phases the first being germination 2001-2008, when the agenda and terminology were defined, and research focused on micro strategizing, establishing three P:s (practice, praxis, and practitioners) as a metatheoretical lens. The following stage is defined as the blossoming stage, 2008-2015, when the movement was established and the primary research areas were strategy process, materiality, discourse, sensemaking, strategy as profession, and clarifying the boundaries of the field. The third phase, from 2016 to 2021, is characterized by expanding the research to broader phenomena, connecting research with new fields, and exploring core strategy concepts (Jarzabkowski et al., 2022, pp. 1539–1540). Strategy-as-practice can also be divided into five research clusters of praxis, sensemaking, discourse, sociomateriality, and institutionalism, and a closely associated process research cluster (Kohtamäki et al., 2022, p. 210). Recently, SAP scholars have been interested in consequentiality and the emergence of strategy, connecting micro to micro levels ontologically, and expanding the research into unexplored areas, for example, grand challenges and different types of organizations (Li & Jarzabkowski, 2025, pp. 4–5).

The movement has received criticism throughout its existence. Carter et al. (2008) criticize the research for naïve conceptualizations of both strategy and practice and suggest including, for example, themes such as power, reality construction, discursiveness, and networks in the research agenda (p. 96). Practice theory is said to be unsettled and lacking coherence because of three different possible ways (empirical, theoretical, and philosophical) to approach it (Feldman & Orlikowski, 2011, p. 1241). Chia and Holt (2006) call for clarification of concepts and interrelations of practice, agency, and action (p. 635). Furthermore, scholars

have different interpretations of practice concepts (Bromiley & Rau, 2016; Jarzabkowski et al., 2016). Rouleau and Cloutier (2022) state that SAP scholars have still failed to define practice concepts clearly enough, including relation to agency and outcomes (p. 723). While Kohtamäki et al. (2022) praise SAP for challenging established strategic thinking across multiple research streams, they call for bridging these streams to make SAP theoretically more coherent (pp. 225–227). Faraj and Leonardi (2022) note that strategy-as-practice research should recognize the fundamental role of technology in strategy work (p. 773).

2.2.2 Practice

The intentional and unconscious ways of strategizing are intertwined with social and material conditions that restrict and enable individuals and communities in their work. Practices are routinized ways of thinking, acting, and behaving grounded in traditions and norms (Whittington, 2006, p. 619). Relationally, practices can be described as bundles of conjoined practices (Nicolini, 2012, p. 8). Practices can be reviewed, for example, from discursive (Hendry, 2000), narrative (Fenton & Langley, 2011), sensemaking (Balogun & Johnson, 2005; Knight et al., 2025), sensegiving (Gioia & Chittipeddi, 1991; Rouleau, 2005), and socio-material perspectives (Balogun et al., 2014; Glaser, 2017; Jarzabkowski & Kaplan, 2015). Chia and Holt (2006) state that practical work is a combination of actors' unintentional dwelling practices and intentional actions (p.650). Jarzabkowski et al. (2016) suggest a framework (see Figure 3) that explains the outcomes of practices through the interplay of context, bundles of practices, including new practices, and the precise ways in which individual practitioners perform these practices (p. 251). Feldman and Orlikowski (2011, pp. 1241–1242) assert that practice theories generally agree on three mutually dependent principles: everyday activities are situated and have social consequences; practice theory rejects dualism, and phenomena exist and are produced in relation to one another. They continue that, consequently, social structures and agency must be understood as mutually constructing processes. In other words, practices and actions can have various intended and unintended

strategic consequences for multiple actors, and actors have significant power to shape, transform, and resist the strategies, practices, and actions they are involved in (Jarzabkowski et al., 2021, pp. 4–5).

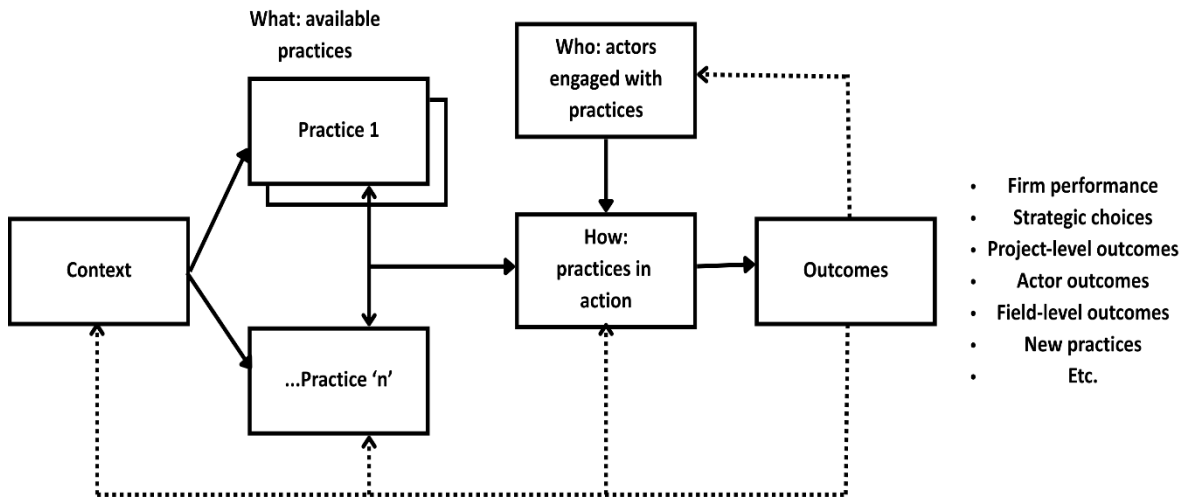


Figure 3. A schematic model of strategy practice (Jarzabkowski et al., 2016, p. 251).

Changing or creating practices requires management of this multifaceted process. The interplay of tensions between the recursive and adaptive tendencies of practices across levels of individual actors (reflexivity, competence), organizations (culture, communication practices), and the macro-environment (social conditions and competition) affects the adaptability of practices (Jarzabkowski, 2004, p. 539). Furthermore, these tensions within bundles of practices have very different direct and indirect consequences at the organizational and individual levels, and assessing their overall consequentiality requires careful reflection (Jarzabkowski et al., 2021). Practices can be intentionally tried to change (see Figure 4) by first changing the principles or arrangements of the practice, repeating the new praxis regularly in doings and sayings and long enough to change related practices finally enacting changed practical understanding for practitioners and sustainable change in principles and material arrangements of the practice (Kremser & Sydow, 2022, pp. 15, 17). Reconfiguring practices seems to require a combination of socio-cognitive processes and experimental learning.

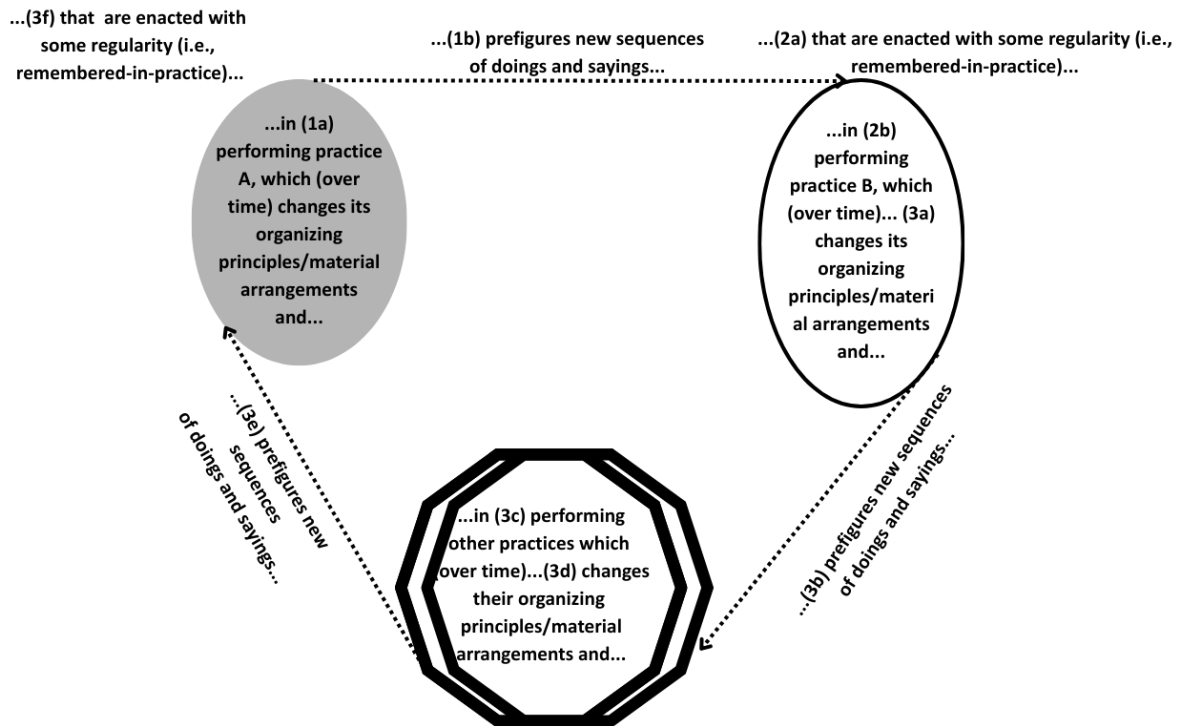


Figure 4. Nexus of practices as locus of self-reinforcement (Kremser & Sydow, 2022, p. 15).

2.2.3 Praxis

Practices lead to outcomes through practitioners' actions, such as sensemaking and interaction. Praxis is an ongoing activity of strategizing that can be examined as a combination of micro-, meso-, and macro-level influences and differences in phenomena across the types of practitioners involved in practice (Spee & Jarzabkowski, 2009, pp. 73–74). Strategizing includes conceptualizing, framing clear plans, coordinating stakeholder interactions, and integrating strategy by adapting its content in interplay with its enactment in praxis through discursive activities (Weiser et al., 2020, p. 987). Micro-activities are entangled with strategy content, therefore a detailed way of doing socially constructed strategizing activities including different ways of using tools and sharing knowledge, has important implications for the creation of competitive advantage (Johnson et al., 2003, pp. 12–13, 17). Practitioners' skills

and various organizational and institutional social practices enable and constrain praxis, and episodes of praxis can have surprising emergent effects on outcomes, actors, and practices (Vaara & Whittington, 2012, pp. 298, 324). Chia and Holt (2006) suggest that praxis involves a combination of cognitive intentions, historical and sociocultural conventions of acting and feeling, adjustment to situational influences, and a willingness to develop through experimental praxis motivated by positive experiences and accomplishments (pp. 21-22). Feldman and Orlikowski (2011) suggest that practical knowing requires recurring action to reproduce the knowledge (p. 1243). Research finds that middle managers shape situated activities through personal autonomy, cooperation with teams and superiors, and the formation of coalitions to implement strategies (Christie & Tippmann, 2024, p. 12).

Understanding the aspects of communication is essential for effective strategizing. Practical work involves engaging in the praxis of discursive storytelling that shapes strategic direction, shared understanding, engagement in strategizing, and collective organizational identities (Fenton & Langley, 2011, pp. 1179, 1190–1191). Additionally, discursive influence depends on context and often occurs in real time, requiring skills and situational understanding to succeed (Barry & Elmes, 1997, pp. 432, 436). Other important areas of praxis include sense-making and sensegiving (Gioia & Chittipeddi, 1991, pp. 442–443), as well as selecting and applying strategy tools to enable outcomes by considering the fit between the agents using the tools and the desired outcomes (Jarzabkowski & Kaplan, 2015, pp. 539–540). Implementing new technology requires new forms of practical knowledge and activities to acquire the required knowledge (Pachidi et al., 2021, p. 38). Research indicates that socio-material factors significantly affect strategy praxis.

2.2.4 Practitioners

Effective strategizing depends on practitioners' motivation and abilities, which shape practices through who they are and how they act as individuals and members of a group.

Strategy practitioners are a central factor of strategizing as they do the strategy in cognitive and activity levels with specific and partly local craft skills, competencies, and knowledge (also tacit knowledge), including an understanding of their role in the strategy work of a company (Whittington, 1996, pp. 732-734). Practitioners are integral actors who can shape, enable, or resist strategies (Jarzabkowski et al., 2021, p. 5), and, at the same time, the organizational structures that enable or constrain these actors are reciprocally affected (Jarzabkowski et al., 2019, p. 854). Practitioners are furthermore enabled and constrained by the interplay among institutional, organizational, and individual factors when they attempt to balance stabilizing and adapting practices or praxis, using their cognitive resources in strategizing (Jarzabkowski, 2004, pp. 530–531, 539). Research also distinguishes between individual and group levels, between strategists inside and outside the organization, and between the effects of aggregate roles and responsibilities (Jarzabkowski & Spee, 2009, p. 73). Chia and Holt (2006) suggest that strategic agency is an interplay between relationally constructed “dwelling” (internalized, unconscious routines) and “building” (self-conscious, intentional action triggered by unexpected occurrences) (p. 644).

Practices and tools that support personally meaningful praxis can enhance a sense of purpose, which allows personal growth. Agency is closely related to the practitioner’s identity (Chia & Holt, 2006; Fenton & Langley, 2011; Mantere & Whittington, 2021), and the strategist's identity shapes actions (Balogun et al., 2014, p. 192). Practitioners ability to influence strategic issues out of the scope of his/her own responsibilities can be enabled by a balanced set of recursive and adaptive strategy practices that allow creating personal ownership of strategy, positive social interactions for exchange of ideas and sensemaking, and practices that lead to predictability and sense of self-achievement (Mantere, 2005, pp. 157, 171–176). Strategy tools are applied to strengthen the strategist's agency, to assist with cognitive limits, and sensemaking processes (Jarzabkowski & Kaplan, 2015, pp. 541, 545). Similarly, Knight et al. (2018) state that skillful use of tools can significantly facilitate the conversational meaning-making process through visual presentations (pp. 916-918). The introduction of new

tools requires trust-building processes. AI adoption triggers emotional and cognitive trust responses that affect practitioners' behavior while using AI (Vuori et al., 2025, p. 32).

2.2.5 Discourse and sensemaking in strategizing

Language, in spoken and written form, is the primary means of creating and communicating strategic directions. Strategy discourse studies how sayings and texts, including narratives, affect strategizing (Kohtamäki et al., 2022, p. 213). Narrativeness in strategy refers to the use of language to construct meanings, create understanding among actors, and motivate action toward shared goals (Barry & Elmes, 1997). Hendry (2000, pp. 970-972) states that decision-making is an essential concept in discourse, as it links cognitive reasoning to action through simultaneous sensemaking and the legitimation of past and future strategies. He emphasizes the constant need to mediate the strategy process by transforming strategy concepts into meaningful and socially constructed praxis. Based on studies, the ability to create, discuss, and implement strategic concepts requires an understanding of the socially constructed nature of the language of strategy.

Sensemaking is a social-emotional learning process for understanding and developing ideas. Phases of Sensemaking (cognitive effort of understanding) and sensegiving (actions to influence) alternate in a strategic change process, in which management envisions change, communicates and develops the idea, and finally establishes and motivates the change (Gioia & Chittipeddi, 1991, pp. 443–444). Sensemaking and sensegiving activities include micropractices such as communicating the change to stakeholders, understanding the sociocultural context, and providing emotionally and cognitively compelling reasons to accept the change (Rouleau, 2005, p. 1432). Knight et al. (2025, pp. 337–339, 348) suggest that different atmospheres enable or constrain sensemaking styles: a relaxed atmosphere fosters the development of shared understanding, a pensive atmosphere enables the exploration of ideas, a tense atmosphere fosters competition among ideas, and an excited atmosphere fosters

collective creation. In addition, the authors find that language and physical presence in interaction can affect the outcomes of sensemaking through different interpretations of discussed issues.

2.2.6 Sociomateriality

Strategists use material and abstract tools to solve problems and explore ideas. Physical objects, artifacts, enable epistemic strategizing, allowing abstraction and the development or substitution of strategic concepts through situated praxis (Jarzabkowski et al., 2013, pp. 50, 52). Artifacts are typically designed to enable specific affordances and are scripted for specific uses, but the social context and practitioners' imagination may lead to new ways of using artifacts through activities of repurposing, rescripting, and repairing (Jarzabkowski & Pinch, 2013). Jarzabkowski and Kaplan (2015) define strategy tools as

“fluid objects that, through their selection and application by particular actors in particular contexts, produce a variety of outcomes for different stakeholders, including the degree of exploration provoked, resolution achieved, satisfaction with the process, discretion or competence of the actor, and routinization of the tool in an organization’s practice.”

(Jarzabkowski & Kaplan, 2015, p. 538).

Enabling contextually valuable affordances from the use of sociomaterial tools requires experimentation beyond discursive and sensemaking skills. Sociomateriality suggests that materiality, for example, in the form of technology or physical mechanisms, is constitutively and relationally entangled in social work processes that enact organizational performativity (Orlikowski & Scott, 2008, pp. 466–467). Balogun et al. (2014) suggest that sociomaterial strategizing (see Figure 5) is an intertwined phenomenon at the institutional, organizational, and episodic levels, enabling discursive affordances through an interplay of practitioners' characteristics, material arrangements, power dynamics, and sensemaking (pp. 184–186).

Orlikowski (2000, p. 422) states that the situated nature of sociomateriality means that multiple factors, such as an organization's technological and institutional conditions and practitioners' motivations and technological skills, enable three types of enactment: inertia, application, and change. Furthermore, the highest level of enactment enables "improvisational" cooperative teamwork that leads to the design of processes and tools, and even to the transformation of organizational structures. Describing strategy tools as boundary objects refers to the idea that strategists may have different interpretations and ways to use the same tools, and depending on the context, the tools have enacting and constraining effects on the social process of strategizing (Spee & Jarzabkowski, 2009, p. 227). Thus, tools may enable flexible strategizing for actors by fostering communication and social interaction during sensemaking amid uncertainty and the exploration of strategic solutions (Jarzabkowski & Kaplan, 2015, pp. 539–540).

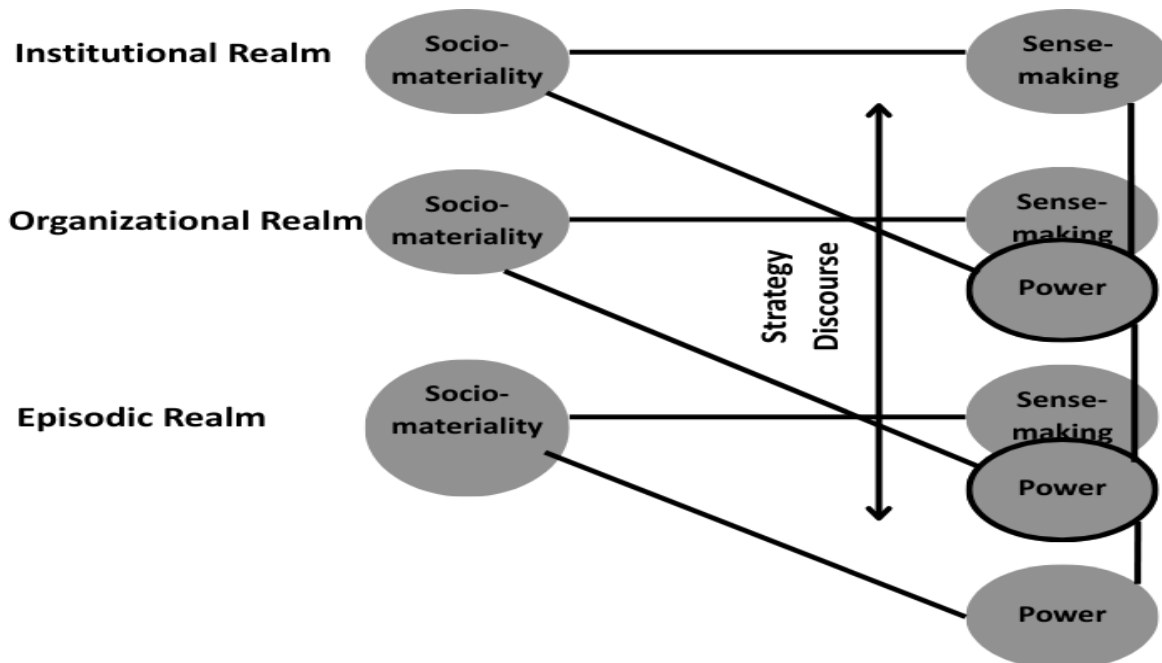


Figure 5. Strategy discourse, sociomateriality, sensemaking, and power (Balogun et al., 2014, p. 184).

Exploring strategic ideas and alternatives in today's complex environment requires more than frameworks and workshops. Technology is a fundamental part of modern strategy work,

reconceptualizing cognition, organizational boundaries, and decision-making (Faraj & Leonardi, 2022, p. 776). Knight et al. (2018) find that tools such as PowerPoint can facilitate evaluation, comparison, and idea development in discussions by visualizing strategy concepts (p. 916). Furthermore, technologies are inseparably intertwined with organizations' knowledge cultures through discursive practices of collaboration and the definition of what constitutes valuable information (Kaplan, 2011, p. 320). Werle and Seidl (2015, p. 86) offer a framework (see Figure 6) for a strategic exploration process that uses artifacts to facilitate it. They differentiate between holistic and detailed representations of the explored topic, which structure and contextualize the exploration, thereby enhancing understanding. The above results suggest that the adoption of technology can significantly facilitate strategizing, but it also changes sociomaterial-discursive practices and requires adaptation and sense-making.

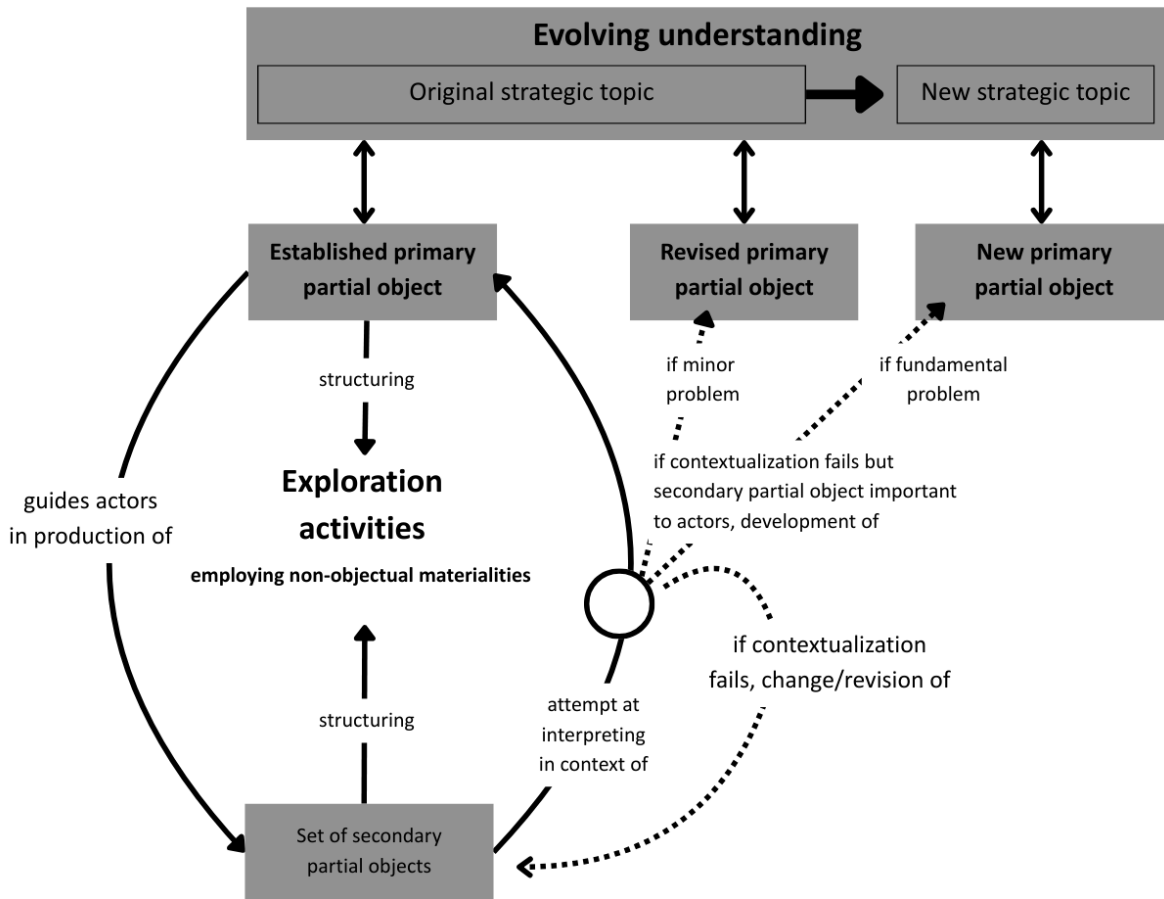


Figure 6. Evolving understanding of strategic topic as result of interplay between primary and secondary partial objects (Werle & Seidl, 2015, p. 86).

The next framework describes activities included in strategic exploration in a sociomaterial setting. Glaser (2017, p. 2134) suggests a theoretical framework (see Figure 7) to intentionally create new routines through “design performances” by designing and employing artifacts through four activities: reflecting on the nature of routine, uncovering beliefs related to routines, redefining the agency of new routines, and evaluating possible benefits of the created routine. Furthermore, the interaction among actors, theories, practices, and artifacts during these activities leads to evolution in routine dynamics.

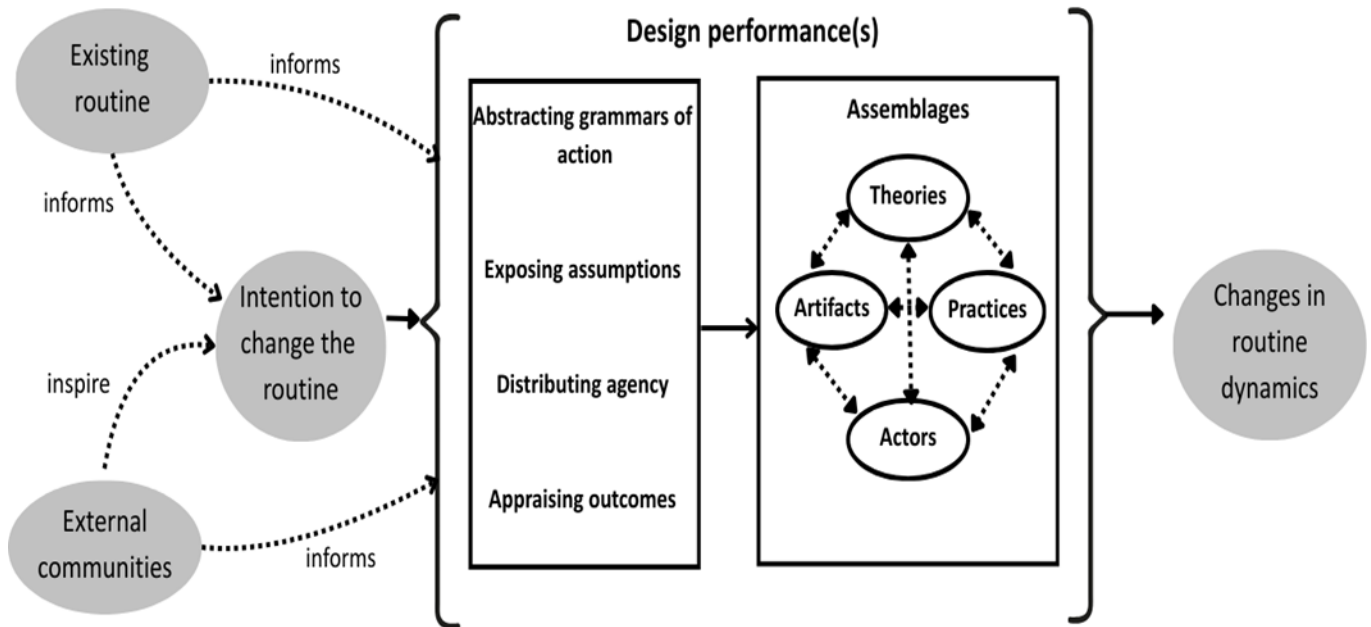


Figure 7. A theoretical framework explaining how organizations use design performances to change routines (Glaser, 2017, p. 2134).

Sociomaterial strategizing is an interplay among designing tools, exploring ideas, and organizing practical activities within a social context. Burke and Wolf (2021, pp. 380, 382–384) suggest a framework (see Figure 8) where the intentional tool production cycle of generating ideas, designing, and reviewing materiality of the ideas can lead to cycles of strategizing that allow actors to explore not only defined issues from broader perspectives, but also unrelated though valuable latent ideas and options that emerge during the process. Furthermore, they state that sociomaterial engagement facilitates an entangled interplay between purposeful strategizing and an improvisatory, dwelling-type of strategizing, which can lead to valuable insights in complex environments. The researchers also emphasize that flexibility and abstract conceptualization in the tool design process may reduce tensions and enable the exploration of a variety of solutions.

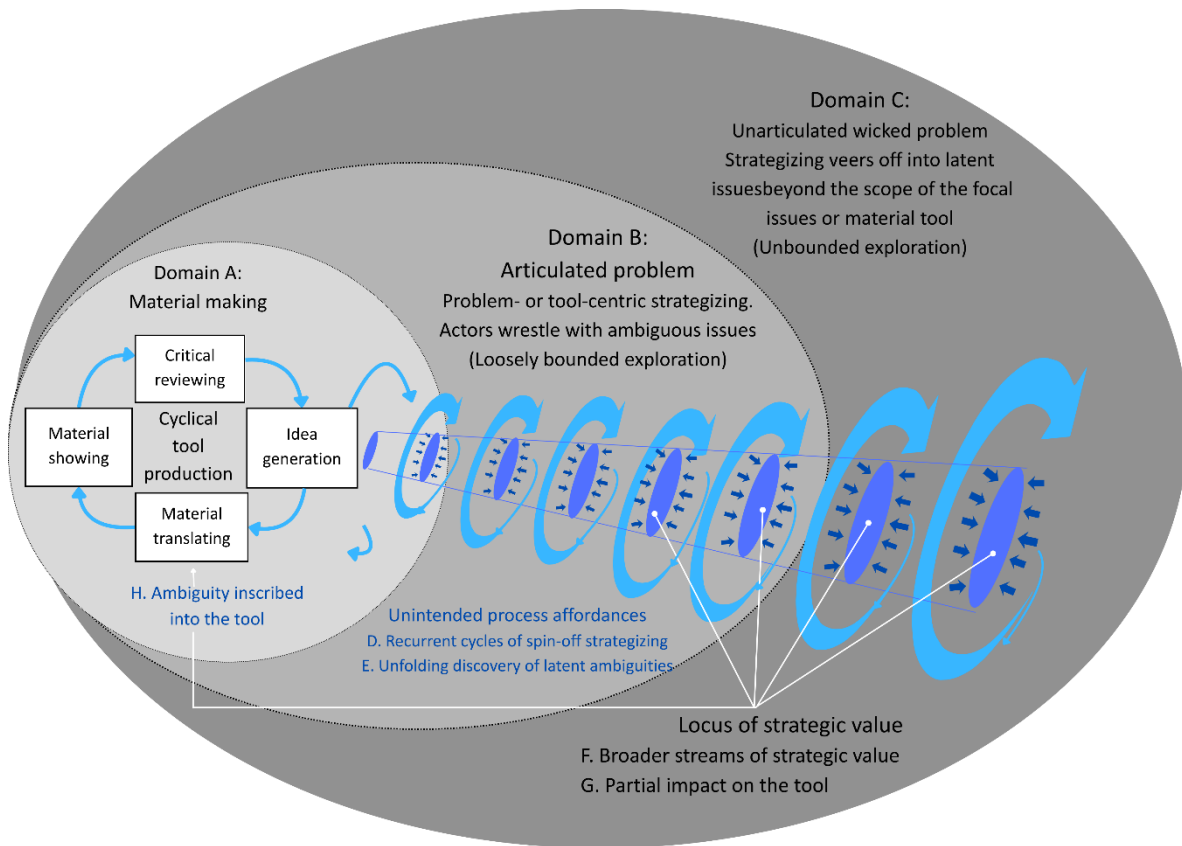


Figure 8. The process affordances of strategy toolmaking when addressing wicked problems (Burke & Wolf, 2021, p. 380).

2.3 Generative artificial intelligence in organizations

This chapter introduces recent theories of artificial intelligence (AI), and particularly generative AI. The chapter begins with the core concepts of AI and then proceeds to human-AI collaborative strategizing.

2.3.1 Core concepts of generative AI

Nowadays, GenAI is offered, for example, as a supplement to basic office applications, mobile phone applications, and search engines. AI companies release updated versions of

generative AI several times a year, and AI platforms are readily and affordably accessible to everyone. AI can be described as a frontier of information system development with an ever-expanding range of possible contexts of use (Berente et al., 2021, p. 12), and an attempt to replicate the way human cognition learns and processes information (Enholm et al., 2022, p. 1712). Scott and Orlikowski (2025) suggest that the AI phenomenon should be studied with a genealogical perspective, diagnosing and problematizing how different enactments and choices throughout the history of AI-in-the-making have configured the technology, and how sociomaterial engagement with AI reconfigures the enactments of different situated versions of AI. An idea of developing AI, a machine emulating human intelligence, was first talked about in Dartmouth Conference in 1956, and after periods of slow development, fast advancements in machine learning and neural networks in turn of the century laid the ground for development of foundational generative AI architectures like generative adversarial networks (GANs), variational autoencoders (VAEs), and autoregressive models. (Balasubramaniam et al., 2024, pp. 1–2). Generative AI is characterized as an agentic technology because it can execute actions on a user’s behalf (Vanneste & Puranam, 2024). Generative AI has advanced rapidly in recent years (see Figure 9), with applications including computer vision, natural language processing (NLP), speech synthesis, content creation, personalization, and data augmentation (Balasubramaniam et al., 2024, pp. 3, 5).

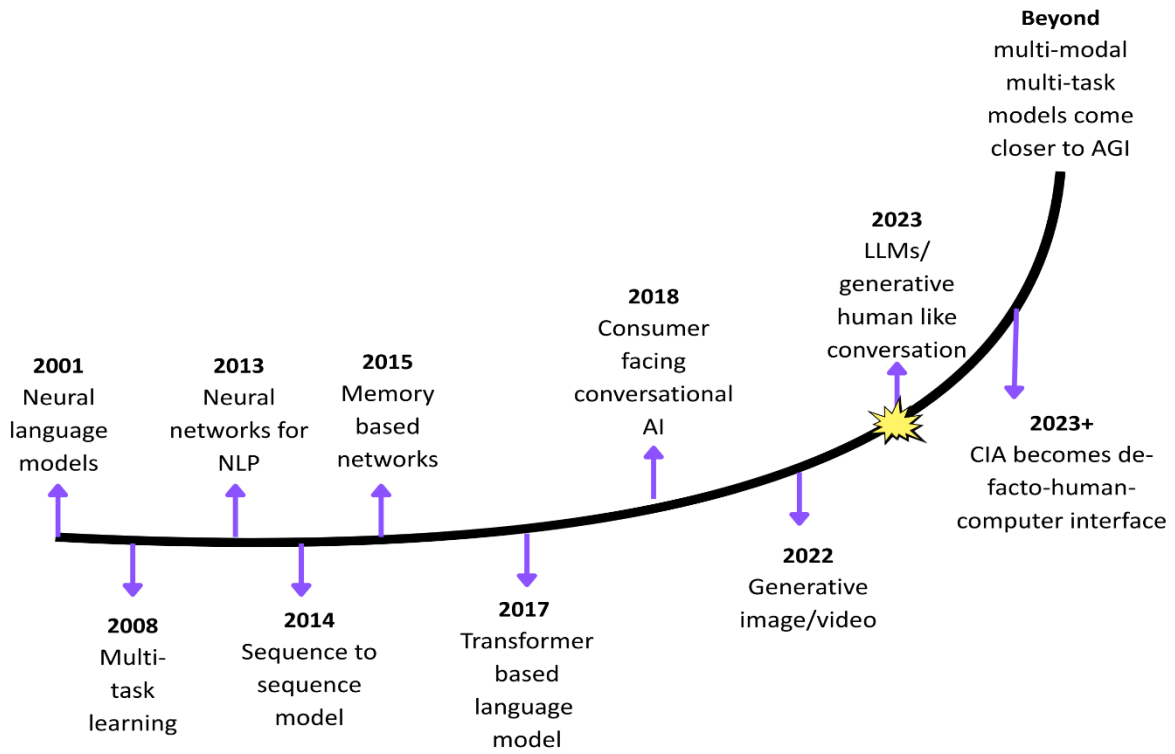


Figure 9. Exponential growth of generative AI (Balasubramaniam et al., 2024, p. 5).

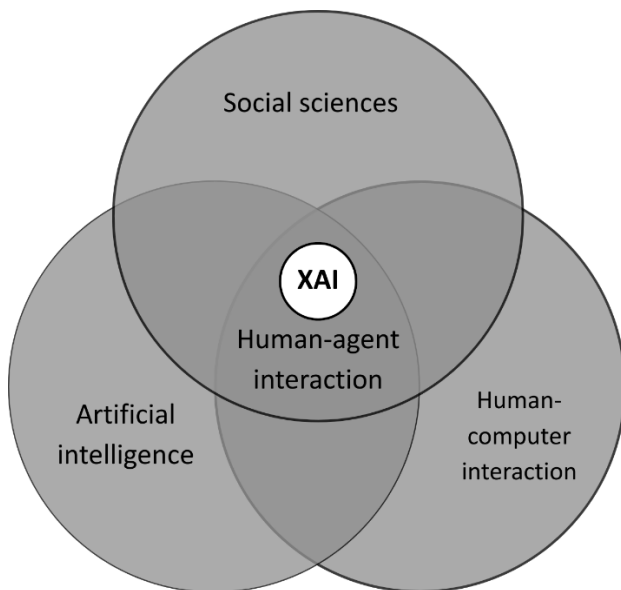


Figure 10. Scope of explainable artificial intelligence (Miller, 2019, p. 2).

Berente et al. (2021) identify three primary aspects of AI management: autonomy, learning, and inscrutability. There are other suggestions, for example, learning, reasoning, and adapting (Abedin et al., 2022, p. 691). Kemp (2024) believes that three factors limiting the use of AI for gaining a competitive advantage in a strategic context are that the technology is available for all, it requires making knowledge of the firm available in explicit form for AI to understand it, and finally, the myopic nature of AI requires contextualizing of AI outputs (p. 619). Research on explainable AI (XAI) aims to make the chain of reasoning and AI's outputs more transparent and understandable to humans (Adadi & Berrada, 2018, p. 52140). Miller (2019, pp. 2–3) claims that the explainability of human-agent interaction should be studied by integrating insights from the social sciences, AI research, and human-computer interaction research (see Figure 10). He continues that four factors should be considered: explainability is socially constructed in relational interaction, people are biased in their review of explanations, humans are interested in contrasting explanations for why something happens rather than for something else, and they prefer causal explanations over probabilistic answers. Meske et al. (2022) state that both humans and AI may be biased, and explainability aims to support the evaluation, improvement, learning from, and justifying AI to enable its management (see Figure 11) (pp. 54, 57).

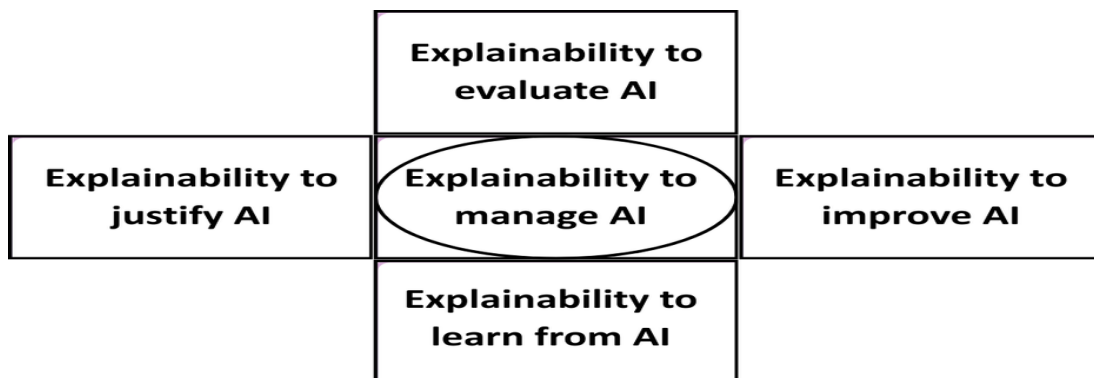


Figure 11. Generalized objectives of explainable artificial intelligence (Meske, 2022, p. 57).

Effective adoption of AI means tailoring the technology to the company. Kemp (2024) suggests that to gain a competitive advantage and situated affordances from AI adoption requires three activities of grounding, bounding, and recasting, regulated by practices related to intentional learning and explainability (see figure 12). She further describes these activities as including data management (creation, digitization, and utilization), orchestrating data and the combined agency of humans and AI, and continuously adapting activities and practices to strategic needs and external conditions. Situating the AI is expected to also enhance environmental awareness. Laamanen et al. (2025) suggest that situated AI can enhance attention control in strategic processes by enabling the processing and control of larger amounts of data more thoroughly and more quickly than before, thereby allowing more relevant people to participate in strategizing (p. 6).

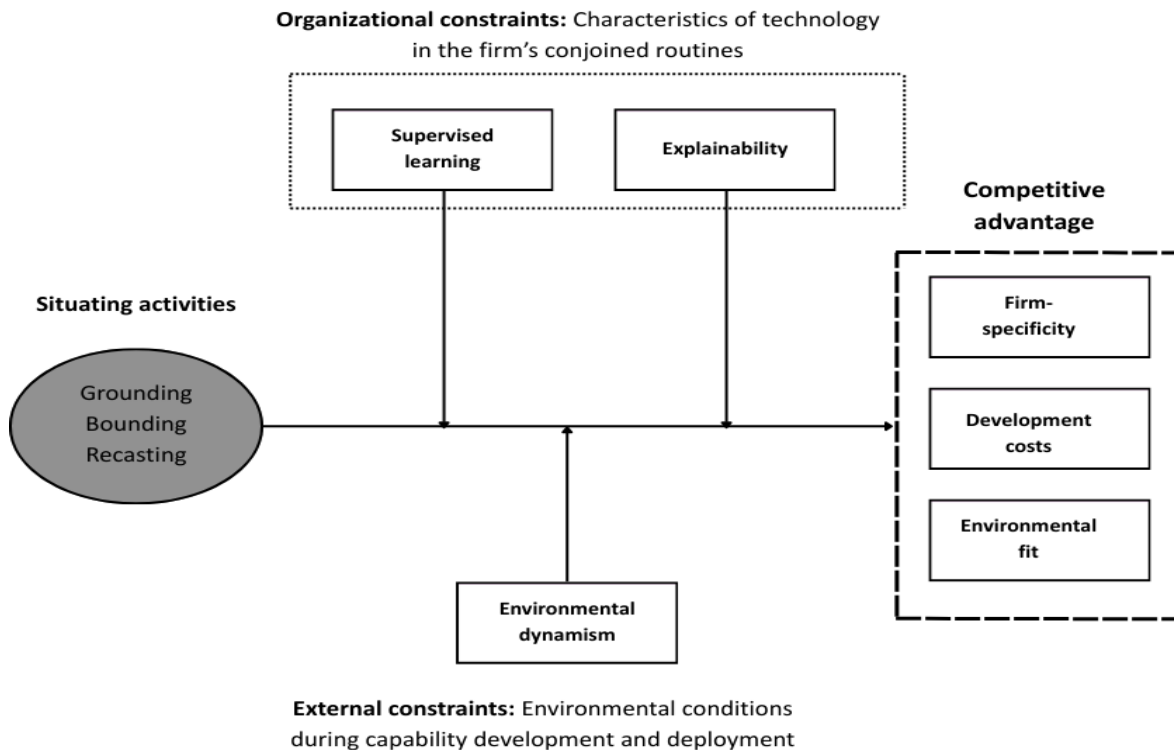


Figure 12. The situated AI framework (Kemp, 2024, p. 624).

AI is a complex set of interdependencies, and its ever-developing nature requires managerial attention to practices, skills, and the agency of both humans and AI. Bailey et al. (2022) describe AI as a constellation of relations with external and internal entities that are increasingly embedded into the core of organizational processes, enabling or constraining organizational actors (p. 3), and Anthony et al. (2023) as an active but inscrutable agent affecting organizational processes through interaction (p. 1680). Scott and Orlikowski (2025) suggest that the agencies of AI and human materialize in a sociomaterial, historically embedded process of “AI-in-the-making,” which may produce different performative effects depending on the version of AI in use and the practical ways it is used (p. 9). According to Faraj and Leonardi (2022, pp. 778–780), the relational nature of AI affects an organization's boundaries, creating dependencies on technology and data providers within the ecosystem. Furthermore, innovation and organizational knowledge practices are bound up with recognizing and managing relationships and data that are strategically important for decision-making. The relational perspective of AI suggests that AI adoption affects identities, power considerations, ethics, and many aspects of management, and that it requires consideration at both micro and macro levels of management (Bailey et al., 2022, pp. 13, 16). In addition, Pakarinen and Huising (2025, pp. 2063, 2072–2073) state that the relational nature of AI requires humans to possess relational skills to manage and understand the complex connections among actors, contexts, and ideas, and, furthermore, to translate these insights into AI and take responsibility for the content and decisions made by AI. They call the process the domestication of AI, which includes humans taking responsibility for all AI development and developing human relational capabilities to assume those responsibilities.

Successful AI adoption enhances performance across domains when companies overcome adoption barriers with enabling practices. Enholm et al. (2022, pp. 1716–1717) categorize enablers and inhibitors into technological, organizational, and environmental factors that affect the use of AI (see Figure 13). They identify process efficiency, insight generation, and business process transformation as the most important first-order effects that lead to

improved performance across domains, along with unintended or negative consequences. A framework by Abedin et al. (2022, p. 693) presents means for mitigating four human-AI interaction challenges: interface design, conversations and collaboration, explainability, and interaction with agentic AI. The scholars theorize that problems should be mitigated during the design and use of the technology to build trust, foster cooperation through mutual understanding, allocate accountability, and divide labor between human and AI agents. According to Vuori et al. (2025, pp. 32, 36), people respond to AI implementation with varying levels of cognitive and emotional trust, which affect individuals' behavior when working with AI. Furthermore, they state that behaviors affect performance and AI use, leading to the conclusion that successful AI adoption requires building trust by developing AI policies, setting realistic expectations about AI performance, and providing training to enable sense-making.

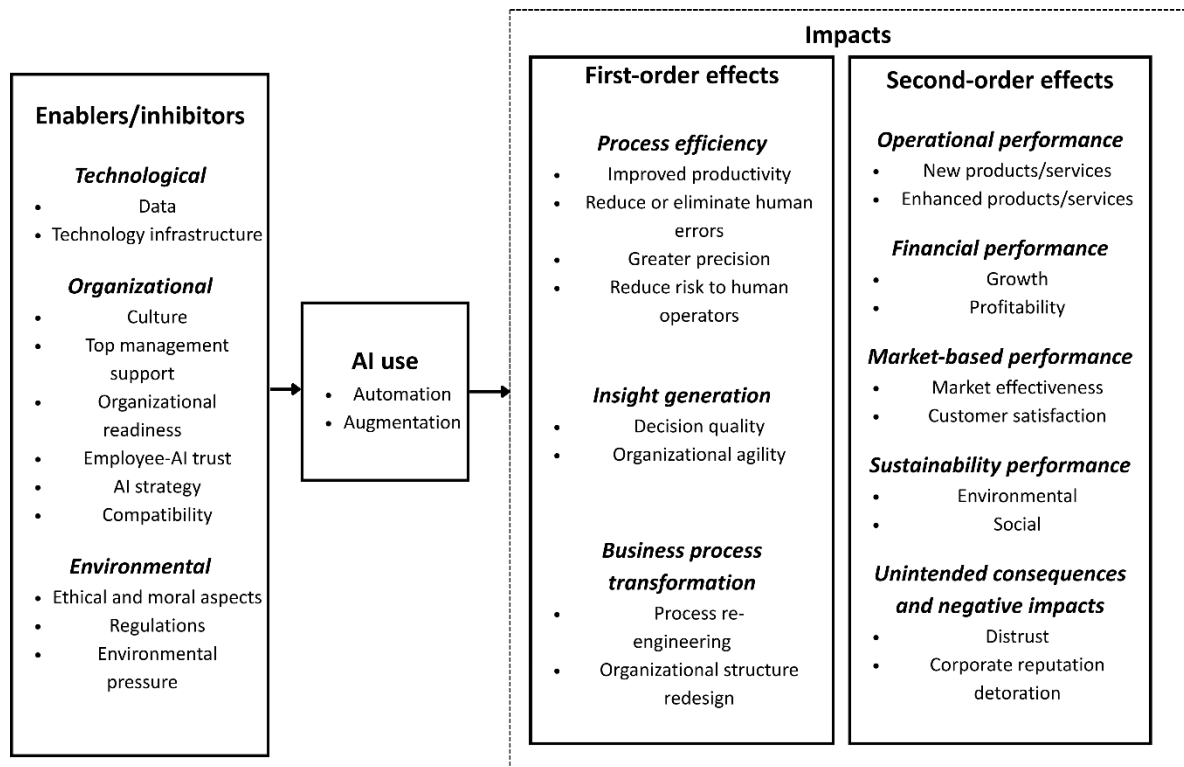


Figure 13. Organizational framework of AI and business value (Enholm et al., 2022, p. 1716).

The organizational change in AI adoption requires multifaceted sensemaking, and different sensemaking approaches appear to lead to different mindsets in practical learning. Engström et al. (2024, pp. 2454–2456) suggest that the way users perceive AI (i.e., abstract versus concrete features) leads to different sensemaking processes and ultimately different modes of AI adoption (see Figure 14). They indicate that concrete features lead to exploratory thinking, in which interactive learning between human and AI agents yields new cognitive frames and enables the successful development of sociotechnical systems. In contrast, exploitative sensemaking leads to minimal change. Another framework by Weber et al. (2023, p. 1555) recognizes that successful implementation requires the ability to identify useful AI applications, communicate about system integration, manage data, and manage the AI lifecycle. They state that these capabilities require practices for sensemaking, data management, skill development, and AI model lifecycle management.

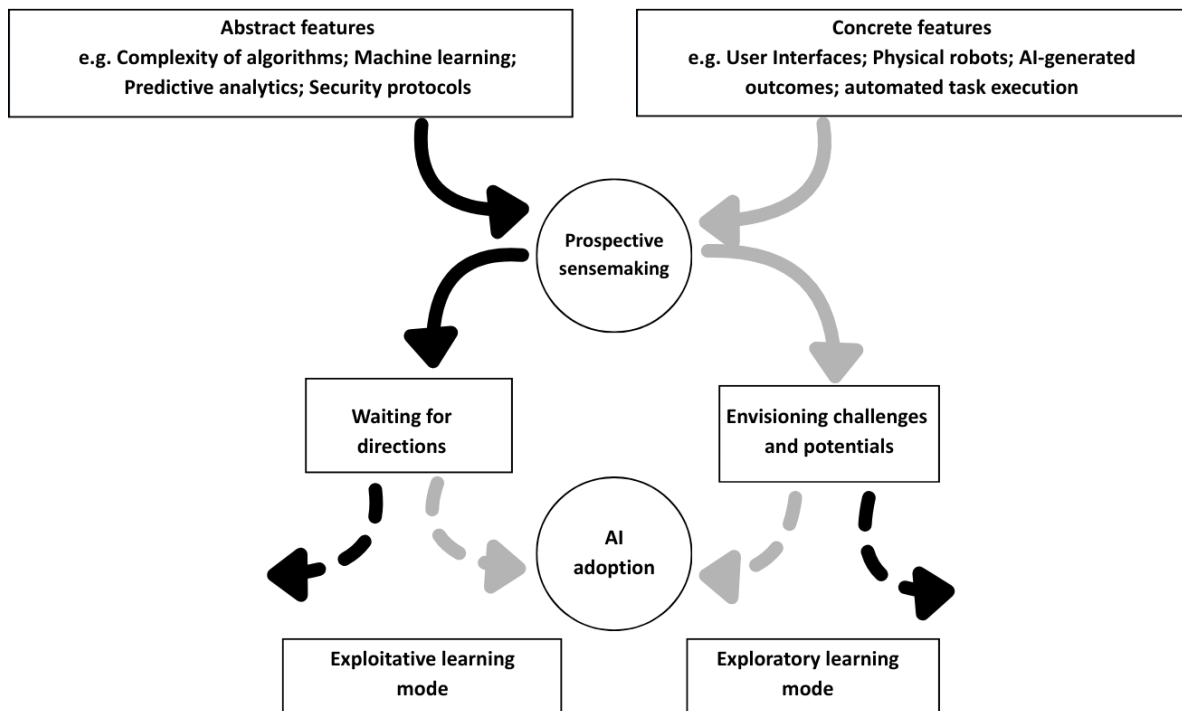


Figure 14. A model of how prospective sensemaking is connected to workplace AI adoption and learning modes (Engström et al., 2024, p. 2455).

Experienced AI users and companies at the beginning of their adoption have different challenges. Ångström et al. (2023, pp. 8–17) categorize AI implementation challenges into categories of AI-experienced companies and new adopters, dividing challenges into technological, organizational, and cultural domains. They state that both groups should invest in people, since a lack of skills and understanding of AI is the most frequent organizational challenge, fears and stagnant routines are the dominant cultural challenges, and technical challenges include investments and data-related issues. Their study reveals that AI newcomers face challenges in securing access to data and in managing the skills, attitude, routines, and culture required to achieve early wins, whereas more experienced companies face organization and ecosystem-level challenges due to the growing complexity of their AI systems, resulting in some cases focusing on simpler, more task-specific AI tools. Allen and Choudhury (2022) state that workers with low domain experience lack the ability to interpret algorithm advice, and workers with high domain experience have high aversion toward algorithm advice due to accountability problems with following inaccurate advice. Experience appears to have multifaceted effects in AI use.

2.3.2 Human-AI collaboration in strategizing

Division of labor and conceptualizing the nature of both actors are important for successful strategy work. The concept of bounded rationality assumes that the cognitive limits of knowledge and the computational capacity of humans constrain their ability to identify alternatives and reason about consequences in decision-making (Simon, 1990, p. 15). Anthony et al. (2023, p. 1675) note that technology has been conceptualized as either a tool that supports human tasks or a medium that facilitates human interaction. However, they think that AI should be conceptualized as a counterpart, an active agent interacting within a system of people, technologies, and shared cognition. A fundamental concept in human-AI collaboration is the different configurations of conjoined agency, meaning defining the limits, protocols, and routines of the independent, intentional agency of both parties in the

ensemble (Murray et al., 2021, p. 553). Traditionally, AI has been used in management to automate tasks and control employees, or augment human decision-making (Choudhary et al., 2025, p. 552; Enholm et al., 2022, p. 1720), but an integrative perspective shifts the focus from tasks to organizational context and collective agency (Hillebrand et al., 2025, p. 347). Raisch and Krakowski (2021) state that automation and augmentation are different facets of a process where affordances provided by automation lead to new possibilities for augmentation, and careful balancing of the two can lead to a virtuous cycle of developing new skills, capabilities, innovation, and organizational agility (pp. 201–202). Choudhary et al. (2025) emphasize the value of human-related knowledge that is not accessible to technology and the potential to gain diverse perspectives and mitigate the biases of all actors in ensembling humans and AI (pp. 547, 555).

Humans and AI have different reasoning capabilities that affect strategizing. The difference between human and AI reasoning is that AI relies on retrospective data to make predictions, whereas humans can make decisions through a process in which new data are generated through theoretical reasoning and experimentation (see Figure 15) (Sako & Felin, 2025, p. 20). Felin and Holweg (2024, pp. 354–362) state that human ability to theorize and experiment under conditions of uncertainty, without readily available data, is integral to knowledge creation and strategic decision-making, which should be unpredictable to gain a competitive advantage. However, they suggest that the division of labor could enable the exploitation of AI for strategizing in data-intensive tasks and as a counterpart in ideation. Sako and Felin (2025) summarize the differences between human and AI decision-making

(see Table 1) and emphasize the human ability to navigate situations characterized by contradictory data and opposing values (p. 20-21).

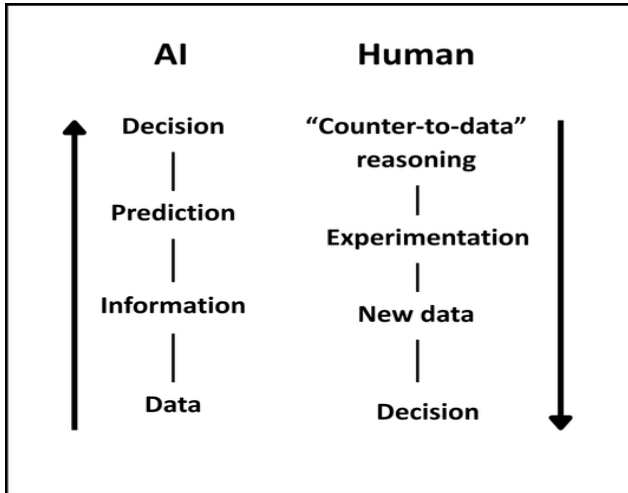


Figure 15. Comparing AI and human decision-making (Sako & Felin, 2025, p. 20).

In a collaborative human-AI problem-solving process, humans are stronger in problem formulation, AI may be efficient in offering solutions, and finally, humans are required to interpret and justify the solutions in the decision-making stage (Von Krogh, 2018, pp. 407–408). Weiser and Von Krogh (2023, pp. 712–713, 715) theorize that AI can be useful in a variety of decision-making tasks under uncertainty. They believe that agenda setting can be supported by observations from automated scanning, and that problem formulation and the identification of alternatives can be supported by AI-generated options and insights based on data gathered from a variety of sources. Furthermore, they note that AI can provide scenarios to support decision-making and intensify the adaptation and evaluation of the strategy during implementation through a rapid feedback loop, provided that humans are comfortable re-evaluating their beliefs and trusting the insights provided by AI.

Raisch and Fomina (2025, pp. 446, 454–457) propose a similar model (see Figure 16), in which humans set objectives and provide appropriate data before AI conducts problem-definition or solution-searching processes, tailored to the situation, and humans then select

the best solution based on the preferred outcome. The researchers state that collective human search yields local outcomes on average, whereas hybrid models vary in the scope and depth of the search (see Figure 17). Finally, they propose that the strategists' expertise and time scarcity likely affect the quality of the search processes in various ways.

Table 1. Summary of decisions and problems suited for AI vs. humans (Sako & Felin, 2025, p. 21).

	artificial intelligence	Humans
types of problems	Structured, well-defined problems with clear parameters and solutions	Ill-defined, open-ended, or controversial problems, requiring problem formulation
input	Data	Counterfactual and causal reasoning
focus	prediction and pattern recognition	Abstract, causal reasoning
approach	Bottom-up, data-driven	Top-down, theory-driven
temporal focus	backward-looking, uses general patterns from past data	Forward-looking and idiosyncratic, anticipates and plans uncertain futures
causal understanding	identifies statistical relationships and correlations	Engages in causal reasoning and hypothesizing
level of specificity	general probabilities, frequencies and averages	Individualized focus, extremes and idiosyncracies
novelty	Recombines known data and patterns to create variation	generates novel data and new associations
useful contexts	Operations, routine decisions in highly stable environments, pattern recognition	Novel decision making, strategy, idiosyncratic decisions in unpredictable environments

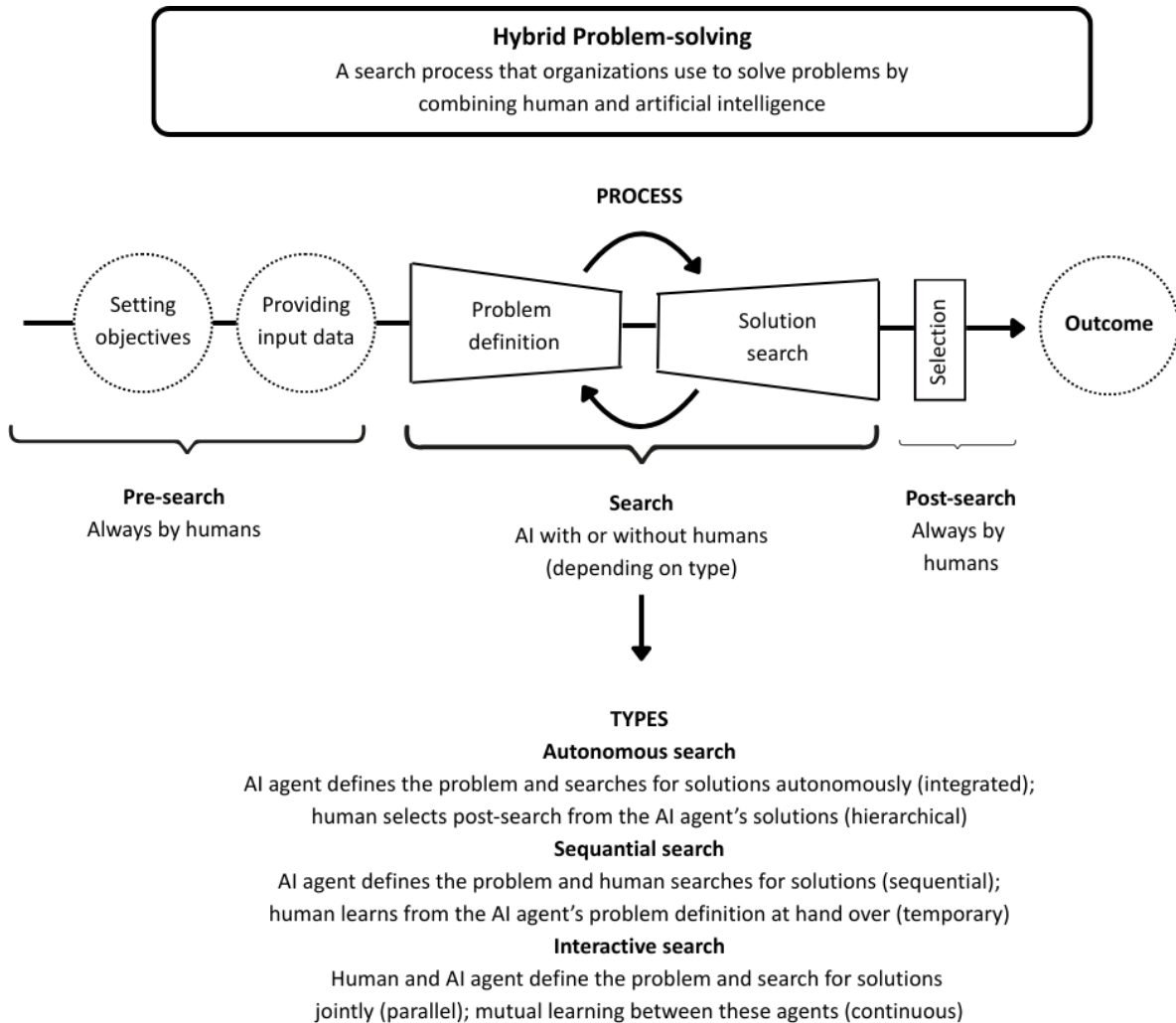


Figure 16. Hybrid problem-solving (adapted from Raisch & Fomina, 2025, p. 446).

A combination of AI technologies can be used in data-intensive strategizing to enhance analysis in collaboration with humans. Kim et al. (2026, pp. 5, 10) present a Collective Intelligence of AI Consultants framework for strategic analysis, where in the first stage, a human expert defines the objective and collects proprietary data, in the second stage, AI agents generate a draft based on the data, and in the third stage, AI agents search for supplementary data from the web. The fourth stage consists of draft revision by multiple large language model (LLM) agents, and in the final stage, the synthesis agent produces a report.

Furthermore, the researchers propose two prompting strategies: expert-defined topics and AI-generated topics, which may yield solutions beyond human-defined categories.

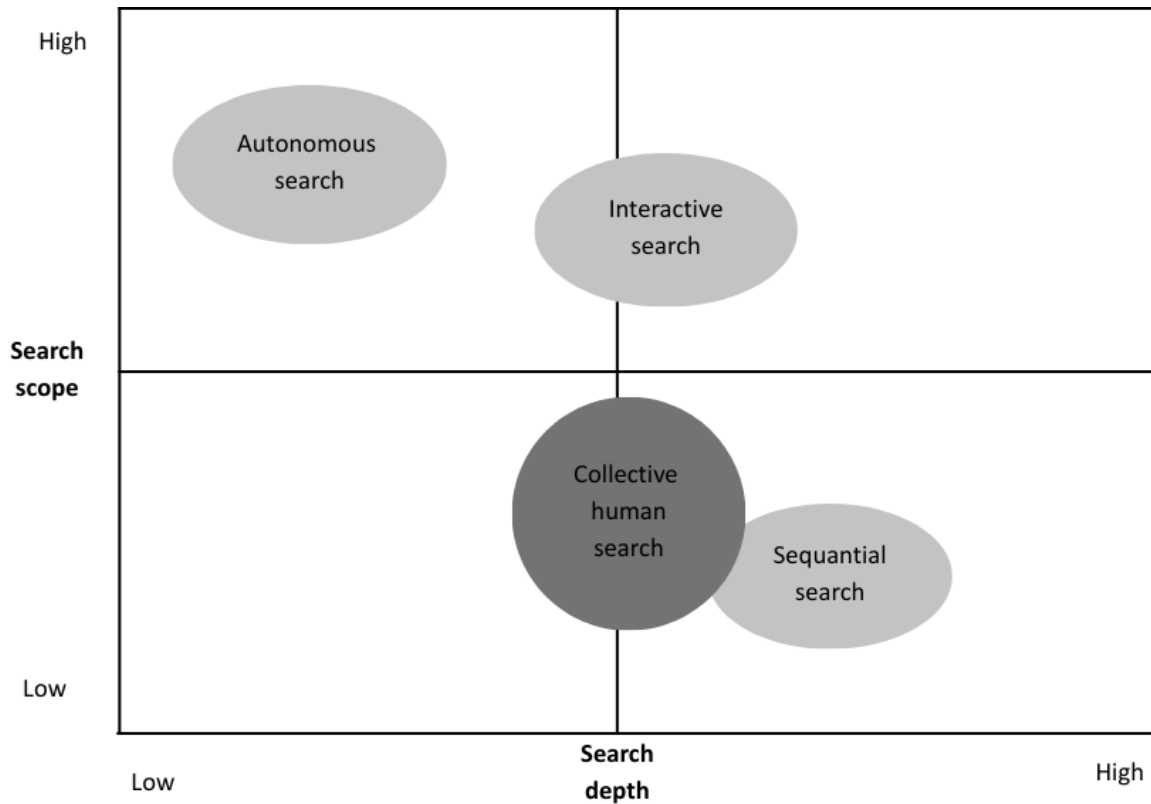


Figure 17. Collective human search versus hybrid problem-solving: outcomes (Raisch & Fomina, 2025, p. 457).

2.4 How generative AI changes strategizing in SMEs

Based on previously presented theories, strategy-tool-building with generative AI affects practices, praxis, and practitioners, and requires continuous practical exploration. Human-AI collaboration offers opportunities for enhanced reflection, data analysis, and exploration of a broader range of strategic options. Although SMEs may face financial constraints in adopting AI, AI adoption in specific contexts can be relatively easy and quick compared to

larger enterprises (Becker & Schmid, 2020, p. 989). The agility of SMEs could be a driver of experimenting with generative AI in daily strategizing without significant investment. The generic nature of AI would require contextualizing the collaborative strategizing into the company context and goals to avoid creating similar strategies with competitors using AI for the same purpose. Therefore, the main question for SMEs is how to leverage the complementary strengths of humans and generative AI to develop unique strategies and achieve a competitive advantage, based on the company's strengths.

According to the model by Burgelman et al. (2018), AI adoption affects sociomaterial practices of strategizing, including responses to short- and long-term issues. Following the model by Weiser et al. (2020), a new conceptualization of strategizing triggers the need for socio-discursive coordination and integration of new practices that enact new ways of working and learning. As noted by Jarzabkowski et al. (2016), a new strategizing context requires new bundles of practices, new ways of working, and new qualities from practitioners. Managing and understanding AI requires practices for explainability (Meske et al., 2022), situating and learning (Kemp, 2024), relational considerations and skills (Pakarinen & Huising, 2025), collective decision-making among people (Laamanen et al., 2025), interaction, trust-building, and sensemaking (Abedin et al., 2022), and an understanding of the differences between human and AI reasoning (Miller, 2019; Sako & Felin, 2025). Based on research, the new conceptualization of strategy work would likely require multifaceted changes in SMEs, but the strategic benefits could justify the effort.

The tool-making process with AI can be implemented company-specifically, and every SME could exploit its strengths and agility in this process. The framework by Balogun et al. (2014) on multilevel social effects that require sensemaking in a sociomaterial context resonates with relational perspectives on AI (Bailey et al., 2022). Scott and Orlikowski (2025) theorize that AI tools develop in an interplay of multilevel effects and local choices, and every tool-making process is unique. The framework by Werle and Seidl (2015) could be used to

describe exploration activities in AI strategizing, and Glaser's (2017) model could be used to conceptualize the development of practices and praxis in a process of AI adoption through sensemaking and division of work between humans and AI. The framework proposed by Burke and Wolf (2021) can be used to conceptualize AI tool-building that yields both intended and unintended insights in the daily exploration of more-or-less articulated strategic issues. These strategy frameworks, combined with insights from Weiser and Von Krogh (2023) and Raisch and Fomina (2025) on the benefits and limitations of human-AI collaboration, could inform human-AI strategizing based on SMEs' unique needs. The framework proposed by Kim et al. (2026) could provide an affordable model for data-intensive strategic analysis that integrates AI technologies in SME contexts. Considering the creativity of the collaborative strategizing, the insights of Sako and Felin (2025) about the different strengths of the actors could further inform the division of labor. Based on these insights, generative AI could be used in SMEs to create structured strategy knowledge, multiplying the positive effects of strategizing compared to strategy work without the affordances of technology.

The division of labor could allow managers in SMEs to focus on the creativity of strategy and the quality of decision-making, while AI could assist with data-intensive tasks, information search, and sensemaking. Enhancing the quality of strategizing in collaboration with AI requires human effort in continuous objective-setting, evaluation, and decision-making (Raisch & Fomina, 2025), as well as creative thinking (Felin & Holweg, 2024). If GenAI were integrated into daily reflections, the process could lead to the exploration and refinement of strategic ideas that humans alone would probably not think of. While AI could facilitate the collection of company knowledge, analysis, and sensemaking, humans could have more time to develop critical thinking, relational navigation skills, and industry knowledge through collaborative exploration.

2.5 Theoretical framework: facilitating quality and creativity in sociomaterial strategy tool-making

This study explores how human-GenAI strategizing can lead to innovative, high-quality outcomes. Building on the theoretical literature reviewed in previous chapters, a conceptual framework (see Figure 18) is presented to show the interconnected elements of sociomaterial strategy tool development with GenAI. The framework integrates multilevel considerations of sociomateriality, strategy discourse, and interplay among practices, practitioners, and praxis. These strategy-as-practice theories are integrated with insights from the human-AI literature: the division of labor, factors concerning human-GenAI interaction, explainability, situating, and the importance of data quality. The drivers and barriers of GenAI adoption and strategy tool development are in interplay across macro, meso, and micro levels, but mediating effects are considered on the company and episode levels. The mediators, drivers, and barriers change over time, depending on choices, the environment, and learning. The arrows with dotted lines indicate effects from one level to another, and the arrows with continuous lines indicate learning and tool-making development between strategizing episodes and effects on the company level. The framework highlights the importance of the interplay among people, practices, and GenAI during strategizing episodes, illustrated with circles; the blue circle marks the point at which GenAI is adopted, with multilevel changes in strategizing. Activities related to the strategy tool-making are described below the circles, and the process of sociomaterial strategy tool-making can lead to various situated affordances.

This model highlights division of labor as a key factor in ensuring that creativity, which is seen as a human trait, remains part of the strategy process while generative AI helps address bounded rationality and rapid feedback loops to support sensemaking. The model incorporates the interconnectedness among the macro, meso, and micro levels of sociomateriality,

as well as the drivers, barriers, and mediators of quality and creativity in the adoption of GenAI for strategy tool development. The creation of the strategy tool advances through practical activities during strategizing episodes, leading to company-specific outcomes depending on the qualities and nature of the assemblage.

3 Methodology

Following the literature review, this chapter first discusses research methodology, justifying the method selected for this study in the first sub-chapter. The case selection is briefly described in subchapter 3.2. Data collection and analysis methods are described in the following subchapter, and the assessment of data quality concludes this chapter.

3.1 Research strategy and method

Research is a systematic process of collecting and interpreting information to develop knowledge with a clear guiding intent (Saunders et al., 2023, pp. 4–6). The methodological fit among the research question, the literature, the research design, and the study's contribution to the literature is integral to high-quality research (Edmondson & McManus, 2007, pp. 1155–1156). The primary factor in choosing an appropriate research method is related to the research question, and contemporary case studies align with exploratory “how” questions (Yin, 2009, pp. 10–11).

Saunders et al. (2023) present a “research onion” (see Figure 19) to describe research through layers of research philosophy, approach to theory development, methodological choice, strategies, time horizon, and research techniques (pp. 128–130). From the five philosophical paradigms, positivism, critical realism, interpretivism, postmodernism, and pragmatism, this study follows interpretivism, which tries to create a new understanding by interpreting complex and subjective social realities. Furthermore, the authors present three research approaches: the deductive approach tests theory derived from the literature, the inductive approach uses known premises to identify patterns and build theory, and the abductive approach uses theory to generate and test conclusions (Saunders et al., 2023, pp. 145–149, 154–158). The inductive approach is appropriate for this study, as the literature is

used to develop a new theoretical framework. In addition, an inductive model is appropriate for capturing the dynamics of emerging concepts (Gioia et al., 2013, p. 22). The coherence of the following three layers of the research onion, methodological choice, strategies, and time horizon, is an important facet of research design in achieving research objectives through the last phase of data collection and analysis (Saunders et al., 2023, p. 176).

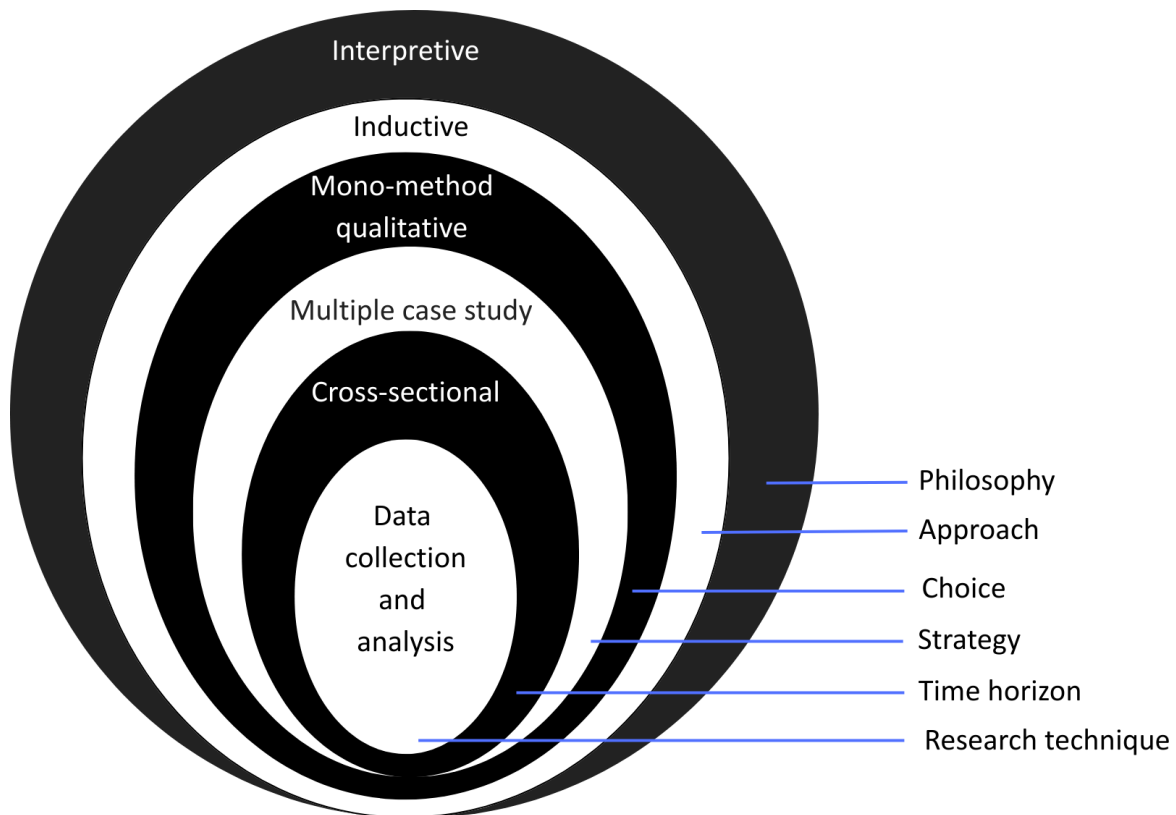


Figure 19. Research onion (adapted from Saunders et al., 2023, p. 130).

This study employs semi-structured interviews for primary data collection, following a mono-method qualitative approach, and uses a case study as the research strategy (Saunders et al., 2023, pp. 181, 191). Multiple case studies that follow replication logic in case selection, yielding similar or contrasting results, provide a stronger basis for theory building than single cases (Yin, 2009, pp. 60–61). Multiple cases enable richer theory in more complex environments because findings can be grounded in varied contexts (Eisenhardt &

Graebner, 2007, p. 27). Interviews are efficient for collecting rich qualitative data, and information should be gathered from multiple experts in the field to mitigate bias and obtain diverse perspectives on the subject (Eisenhardt & Graebner, 2007, p. 28). The study's time horizon is cross-sectional, as the phenomenon of human-GenAI strategizing was examined within a specific time period (Saunders, 2023).

3.2 Case selection

This research studies the use of generative AI in Finnish SMEs. The case companies in this study vary in size, age, and industry they operate in, but AI is used in all of them for strategizing. The rationale for a multiple-case study is to compare findings in similar or contrasting cases, including at least two similar cases, to build understanding (Yin, 2009, pp. 58–59). This study compares cases based on experience with AI in strategizing. The preliminary recruitment plan for case companies was to interview four companies and two consultants, and to seek additional cases if data analysis indicated that additional themes were emerging in the final interviews.

Suitable case companies were identified through web pages discussing AI implementation and social networks, and by contacting managers based on recommendations. Technology companies were targeted based on the assumption that their technology readiness would lead to early AI adoption and the development of technical skills. As both technology companies were experienced with AI, the recent AI adopters were sourced from contrasting industries: one was identified through an internet search, and the other through social networks. One consultant was recruited through a professional network, and the other through a LinkedIn search for AI-experienced strategy experts.

The companies were selected using a purposive, theory-driven sampling strategy. The aim was analytical generalization, allowing the study to examine how AI adoption processes unfold across industries with varying levels of technological intensity, environments, capital requirements, and innovation dynamics. The selected industries differ systematically with respect to the mentioned elements, enabling a comparative analysis of AI adoption challenges and strategic responses. Examining AI adoption across these heterogeneous contexts enables the identification of both industry-specific and cross-cutting themes, thereby strengthening the analytical generalizability of the findings. During the last interview, no new significant themes emerged, and the sample size was deemed sufficient. While the number of cases is limited, the depth of the data allowed rich within-case and cross-case analysis.

Table 2. Overview of case companies.

Company	Industry	Employees	Turnover	AI experience	Interviewee(s)
Alpha	AI consulting	4	-	5 years	CEO
Beta	SaaS	14	€2,1M	5 years	CEO
Gamma	Construction	60	€15M	1 year	CEO
Delta	Green technology	200	€40M	1 year	2 managers

The interviewees from companies Alpha and Beta have more experience with AI, whereas those from companies Delta and Gamma have less. In addition, two strategy consultants with expertise in generative AI were interviewed to get a richer view from the field. Interviewees (CEOs) from companies Alpha, Beta, and Gamma are co-owners and the primary strategists of their companies. Delta managers were the most experienced in AI within the company. Table 2 provides an overview of the companies and the data collected for each case.

3.2.1 Company Alpha

Company Alpha was founded in 2024 and consults the nonprofit sector on digital strategy and AI implementation. The company also offers AI-based products. Alpha employs four people. The CEO interviewed is the company's primary strategist and has 15 years of experience in technology-sector strategy across various roles. This company provides insights into a young company with AI expertise and perspectives on digitalization strategies and implementation challenges with multiple client companies.

3.2.2 Company Beta

Company Beta, founded in 2004, provides software-as-a-service and system development consulting, including its own AI platform. In 2024, the company had approximately 2.1 million euros in revenue and 14 employees. The interviewee is a co-owner of the company and has served as the CEO and primary strategist for more than 20 years. The CEO began using generative AI in 2021, and, in addition to using it for strategizing, the company also uses it on client projects. This company exemplifies a digitally native business model in which digitalization is embedded in its core value proposition.

3.2.3 Company Gamma

Company Gamma has 30 years of experience in the construction industry and is developing digital and AI capabilities while focusing on delivering high-quality products, following a cooperative life-cycle model that ensures customer satisfaction and long-term agreements. The company has 60 employees and reported approximately 15M euros in turnover in 2024. The company's CEO is the primary strategist and has experimented with generative AI for a

year. This company represents a traditionally lower-level, asset-intensive industry, providing a contrast to more digitally advanced industries.

3.2.4 Company Delta

Company Delta, founded in the 1960s, manufactures machinery for renewable energy production, employs about 200 people, and recorded approximately 40 million euros in turnover in 2024. The company has five subsidiaries in Finland, Europe, and the Americas and serves customers globally. At the company's request, the maintenance business manager and the chief product and delivery officer were interviewed together. The managers have experimented with AI for approximately a year, and the company plans to adopt AI at the organizational level. This company illustrates digitalization in an innovation-driven sector, sustainability goals, and long investment horizons.

3.2.5 Strategy consultant specialized in technology

The interviewee has over 30 years of experience in the software development industry across various roles and has worked for the past 5 years with growth-oriented software companies, integrating AI into their strategy processes.

3.2.6 Strategy consultant specialized in communication

The interviewee has over 15 years of experience across various managerial roles and currently works as a strategy consultant for companies across industries. In addition to specialization in communication, the interviewee has been integrating generative AI into strategy work for about five years.

3.3 Data collection

Data were collected from multiple sources to strengthen the evidence base (Yin, 2009, pp. 114–115). The interviewees were selected based on their relevance to the research topic. Primary data were collected through semi-structured interviews that ranged from approximately 1 hour to 1.5 hours. All interviewees were sent a brief description of the topic before the interviews to facilitate orientation and to allow them to pose any questions about the subject. All interviews were conducted via a recorded Microsoft Teams meeting within four weeks in October and November 2025. The automatically generated transcripts from Teams were revisited shortly after the meetings to correct potential transcription errors. A semi-structured interview protocol, organized around themes related to the research question, enables interviewees to make sense of their work and the researcher to identify concepts emerging from the data (Gioia et al., 2013, pp. 17, 19). Using interviews to collect rich data on episodic activities such as strategizing is justified, and employing multiple experts, both inside and outside the organization, with diverse perspectives, strengthens the evidence (Eisenhardt & Graebner, 2007, p. 28). The interview framework was divided into categories of sociomateriality, discursiveness, sensemaking, human-AI collaboration, and quality and creativity based on themes found in the literature (see Appendix 1). All interviews were conducted in Finnish to allow Finnish-speaking informants to communicate freely.

Altogether, seven people were interviewed. In most cases, companies had only one person working on an AI strategy, and to obtain diverse perspectives on the subject, two strategy consultants with AI experience were interviewed. Appendix 2 reports the interview durations, lists the interviewees, their current roles, and their total experience with strategy work and AI use. The interviewees were promised anonymity to ensure that sensitive information or quotes could not be linked to them. Secondary data sources, such as official websites and financial reports, were used to contextualize the case companies.

3.4 Data analysis

The interview data were transcribed shortly after the interviews, totaling 249 pages. Next, the transcriptions were translated into English by the author of this study. The following phase was to analyze the interview transcripts through the theoretical framework of this study. Gioia methodology was used in data analysis and structuration (Gioia et al., 2013, p. 20). First-order terms were matched thematically with the interview themes to recognize new themes. The next phase involved formulating the second-order themes and reflecting them within the theoretical framework to identify patterns that align with existing theories and to generate new concepts. Finally, the findings were organized into aggregate dimensions. The first-order terms were initially collected line by line and subsequently organized into themes to limit the number of themes in the analysis. Based on findings from the data analysis, the literature was continually revisited to refine the codes and reorganize the first- and second-order themes. The analysis followed an iterative process in which emerging empirical patterns were compared with theoretical concepts, thereby refining the interpretation of data and the theoretical framing throughout the research process. The final data structurization consists of four aggregate dimensions (see Figure 20). To enhance the rigor of the qualitative analysis, an intercoder reliability check was conducted to evaluate the consistency of the coding scheme (Gioia et al., 2013, p. 22). A fellow student, independent of the study and not involved in the research process, coded a subset of the data. Agreement rate between the coders was 92%, due to a rare theme related to sociomaterial tool-making that was then examined, and discrepancies were discussed to reach consensus.



Figure 20. The coding structurization.

3.5 Assessment of the quality of the data

The quality of case studies is assessed based on four dimensions: internal validity, construct validity, external validity, and reliability (Gibbert et al., 2008, p. 1467). Internal validity refers to the researcher's ability to present a reliable causal relationship between the studied concepts (Gibbert et al., 2008, p. 1466). Construct validity refers to constructing the studied concepts correctly based on previous studies and using numerous sources of evidence (Yin, 2009, p. 42). This study presents a theoretical framework derived from recent studies of strategy-as-practice streams, leading into the sociomaterial aspects of strategy tool-making. After the strategy-as-practice literature, the literature review covers the fundamentals of generative AI, explainability in AI, and theories of human-AI collaboration. Summing up, the theory section aims to understand how generative AI can enhance creativity and the quality of strategizing in Finnish SMEs. The semi-structured interview guide incorporates key aspects of this framework. Furthermore, the interviewees were informed about the interview themes before the interviews.

Regarding external validity, the study's findings should be generalizable to various contexts (Yin, 2009, p. 43). This study examines multiple companies across diverse contexts and industries, and two strategy consultants to enhance generalizability. In addition, the study aims at analytical generalizability to improve external validity (Gibbert et al., 2008, p. 1468). Reliability refers to the transparency and replicability of the study (Gibbert et al., 2008). To minimize errors, the interview guide was used in all interviews, and all informants were guaranteed anonymity to encourage openness.

4 Findings

The chapter begins by reporting findings from all six interviews, organized into sub-chapters. After analyzing the cases separately, this study presents the most significant findings in cross-case analysis. The findings section is concluded by presenting the revised theoretical framework.

4.1 Within-Case description and analysis

4.1.1 Company Alpha

Alpha consults non-profit organizations on digitalization and AI adoption, and the CEO has extensive experience in AI strategy. The interviewee thought that AI is an integral thinking partner in strategizing, enhancing the subjectively perceived quality of strategy work by provoking reflection. The sociomaterial assemblage of AI and humans appears to yield the best strategic outcomes, perhaps balancing the biases of both actors. Discussions with AI can lead to consideration of additional perspectives and more distant outcomes than those without AI. While AI can generate new perspectives and complex scenarios, the interviewee emphasized the differences in reasoning between AI and humans, and the need for human judgment and decision-making in assessing the value of AI-generated outputs.

“Generally, human-AI collaboration leads to the best quality. That is my perception at the moment...In decision-making, I would trust AI alone the least, then a group of humans, and the best version is AI and a group of people comparing and discussing the overall picture.”

“If you use it as a partner to reflect ideas and so on, it can help to get new perspectives that are definitely beneficial.”

“You can spar with it, asking what kind of risks are involved. If we do this, what kind of primary consequences there would be, and what kind of side effects on second and third levels.”

“We have an idea to have AI as a board member someday, that could spar us in strategizing. It’s our future vision.”

“One thing we talk about and remind each other is that it doesn’t have intelligence yet, really. It doesn’t think, it just guesses.”

The interviewee highlighted psychological safety, sharing experiences of AI use, and flexibility as organizational drivers, and curiosity as an individual driver for successful strategizing and AI adoption under uncertainty. Organizational culture can foster creativity by supporting experimentation, cultivating a sense of ownership, and encouraging open-minded exploration of strategic ideas. It seems that trust-building and an atmosphere that allows exploratory reflection without the pressure of immediate results could facilitate flexibility and creativity in thinking and in the praxis of creating new practices in the tool-making process.

“Psychological safety is very important in an organization because it helps people trust each other and feel safe expressing their thoughts and ideas without fear of suffering for it... So psychological safety is very, very important. If you have that, it’s a solid foundation for flexibility when flexibility is needed. It’s one of the most important factors.”

“Of course it’s about attitude... Today, I would argue that creativity and flexibility are the most important qualities in companies. And if you build a flexible mindset, it’s easier to manage the uncertainty that we have occasionally in strategy work.”

“There is curiosity. And it’s been mixed with fears that they must learn new things in this digital transformation: is my job safe or in danger? These kinds of things come up.”

“Then it’s very important in my opinion, if you use, for example, ChatGPT, to say that a part of your output is from AI, because it contextualizes the discussion and builds trust between people.”

The value of high-quality proprietary data and the need to invest significantly in processing data into a form usable by AI were recognized. However, even good data and system integration are not enough for a high-quality AI strategy. As the interviewee states, companies may possess substantial proprietary data and knowledge in various forms. Humans must make decisions about the value and usability of different datasets and knowledge sources based on strategic goals and refine the most valuable data to be used in sociomaterial collaborative processes of strategy tool-making between humans and AI. Furthermore, the informant emphasized the human responsibility for the quality and creativity of praxis in framing and guiding discussions with AI, drawing on a logic grounded in all relevant company-specific knowledge.

“We don’t have proprietary data yet in our own company to exploit, but if we look at our clients, they have a lot of data, but it’s scattered and not ready to be utilized.”

“The most important thing is to integrate systems to be able to collect and share data, and on top of that, we can build automation and logic.”

“You have to get proprietary data that is cleaned and made into a form that AI can utilize. If you use only public data, the AI cannot understand the context and goals of your organization...and if you have data that others don’t have...that’s a major thing...I think that using general data makes people more stupid and less creative.”

“By using AI poorly, the creativity can suffer...you just become more similar to others...but it can be a booster, depending on how you use it and how you process the results. Moreover, if you can use data that others do not have.”

Diversity of human perspectives, supported by knowledge of the company context and the strategy domain, and continuous critical assessment of AI outputs emerged as necessary drivers in guiding conversations, fostering creative reflection, and enhancing the quality of decision-making throughout the strategizing episode. Human tacit knowledge about the company and relational contexts must also be articulated in material form.

“We say that the more diverse people around the table, the better. Then we get more perspectives and ideas on the table.”

“If you have enough contextual and other kinds of knowledge, you can create processes and ask things. Then you can evaluate the answer critically...There is also a possibility of gaining new perspectives and ideas...There is a danger that you ask things and trust AI without really understanding or checking the sources, just taking it as the truth and using it perhaps in the wrong way.”

The value of human sociomaterial understanding of contexts derived from experience in enhancing the quality of human-AI collaboration was discussed. Furthermore, the informant discussed the importance of practices for both enhancing the material understanding of AI and fostering critical curiosity towards AI as a collaborator, which are necessary drivers of the quality of tool-making.

“You should have the right kind of attitude towards technology...Humans have context; more experience of the world...If AI states something, and you have a different experience, I primarily trust human experience and human research.”

“It primarily depends on how you relate to new technology, how you understand the background and the benefits of it...some people don’t want to use AI, because it’s new technology, and some people maybe use it too much...So in that sense, if we can explain and change the attitude to make people understand that it’s an excellent tool for specific tasks, we can get more out of it.”

The communication interface and the nature of human-GenAI interaction were recognized as potential barriers to critical thinking. In addition, although the AI outputs may sound convincing, the informant emphasized the need for human effort to verify and refine them.

“It’s a little bit dangerous to ask AI for answers, because it always wants to please you.”

“You must be able to validate all the results....you have to check if this can be true by googling or doing research.”

“You must remember it’s a tool, not the truth, so that we can verify the output critically. It’s like a suggestion, and we have an attitude that we don’t trust it. It’s a first draft.”

Although the case company used AI to generate and edit strategy texts, the informant called for critical thinking and careful evaluation of contexts in which AI can be used to support the writing of adequate quality. Textual conversations with AI could be seen as a sociomaterial process, where text is used as an artifact to produce valuable outcomes through an iterative contextualization process that builds the tool and makes the thinking process visible.

“We use it for enhancing the speed of writing...but you have to be careful and really check what it has thought and produced...It’s an excellent “fake it until you make it” robot in the sense that it knows nothing. It is just phenomenal in guessing what would be smart to say.”

“You have to find a balance, that you don’t use, for example, ChatGPT for every step...the task can take more time to finish with corrections than writing it by yourself.”

Experience in strategic work and AI likely facilitated innovation and the rapid integration of AI into tool development. It seems that the sociomaterial assemblage of skills, understanding, theory of the company, and technological infrastructure was present in the company, and the evolution of AI was the one component that enabled AI-product development. The interviewee highlighted the importance of staying up to date with AI trends and capabilities to build the company’s own AI tools and processes. This indicates the rapidly changing nature of AI as a sociomaterial tool, as its material capabilities and reasoning logic can evolve continuously and unpredictably, and practical exploration may be the best way to keep pace with its development and manage the tools in use. Furthermore, the sociomaterial strengths and needs of the company and its clients must be considered in the tool-building process to find a fit.

“When we were thinking what our company should do, it helped us, we came up with ways to implement AI into our product...and now we have a second product coming up, and it came straight from a realization that AI has reached a certain level, and we can now achieve these things with it. We can really build this kind of a product, and it happened a month ago, when we realized that we had reached that point.”

Drawing together the findings of the Alpha case, human factors such as attitude, creativity, atmosphere, and tacit knowledge are key to creating and using high-quality proprietary data for effective GenAI strategizing. Furthermore, the direction of tool-making and the value of perspectives created in collaboration with GenAI must be based on human judgment. This sociomaterial entanglement of human factors and GenAI processes requires practical work and constant attention to human responsibility for setting and refining the strategic objectives. Another major finding was the importance of sociomaterial experience of AI and strategy work. Extensive experience allowed the company to rapidly adopt GenAI into its business model and products, showing the value of experience in the strategy tool-making process.

4.1.2 Company Beta

Beta is a software company offering consulting in system development, and the CEO is experienced in AI strategizing. Excitement and personal ownership of AI as an integral thinking partner and inspirational tool were expressed throughout the conversation. The informant believed that AI had played a significant role in their technology-based business innovation, as AI-powered collaborative, exploratory tool-making processes had led to new products, strategy practices, and strategic opportunities. To explore strategic tool-building, the CEO initiated sociomaterial exploration with technology experts, facilitated by a strategy consultant. The goal of the strategy process was to innovate new ways to support clients by combining the company's core strengths with emerging generative AI. An inspired leadership support and practical AI knowledge, combined with an understanding of the company

context, technical expertise, and strategy expertise, led to a collaborative tool-making process that resulted in creating a company AI platform. Personal emotional factors appear to be significant in innovation, as the CEO reflected on whether the joy of using the tool would remain when taking it into a business environment.

“It was 2001 when I found generative AI. It was private experimenting...I got excited and thought, “This is great....” I remember thinking, “Do I want to ruin this kind of cool thing with work and business context, or keep it as a private hobby?” Here in Finland, no one really knew about it, but then I thought that I should start using it with people and develop our own approach...We needed direction for the company. The market was challenging, and we had experienced difficulties for an extended period. Then we acquired some new customers just before ChatGPT launched, and while the project was nearing its end, I remember thinking in the last week, “ok, this is significant!”... I have a role in client-based innovation combining technology and business needs, so I took AI into that.”

“I initiated strategy projects to reflect the changes in the business environment, and I thought we had a chance because the others didn’t use AI much. I brought together the best technology people and a strategy consultant for the project. We ultimately created our own AI platform, which has proven to be a sound decision, and I still wonder why others don’t have a similar product!... We could leverage our strengths, and soon we got good customers, so the decision got confirmation from the markets.”

The importance of collective contribution in strategizing emerged in the interview. The reflection of strategy with AI was believed to facilitate the interviewees’ own strategic thinking, resulting in a more structured process of setting, discussing, and implementing strategic ideas. AI-facilitated strategizing with technology experts was perceived as a step toward new, collective, praxis-based strategizing. The findings indicate a shift in the formalization and structure of the strategy process.

“I had this concrete need to have these goals and a clear package around them that I could put into words, and then it actually turned out pretty well and was well received, because of course I commented a lot on stuff to my own crew, so you can kind of see it in people... you kind of know when it works. The strategy presentation was listened to very carefully by the audience, who asked good questions and it has really taken off,

and now we are a strategy-driven company in our own right, which we weren't a year ago at this point."

"I knew that we needed to do something with the team. We needed to do something, but I didn't know what, so there was this strategy project... It's pretty hard to say who contributed what, but even then you can tell that we're kind of one and the same. Ultimately, it's the basic alignment that has made it so easy to deal with the chaotic everyday life, because everyone knows what it is... I always come up with something commercial and innovative, and then also hearing all the time what this means in terms of mature production and what needs to be taken into account. Yeah, in the end, it's probably that kind of commercial thinking and then the pragmatic technology of what needs to be taken into account. That's it. Somehow, bringing it all together was our joint contribution, and let's say that without those people, it would have been pure fantasy."

Financial records reveal (see appendix 3) that the company's turnover declined from approximately 1,7M euros in 2020 to 1,3M euros in 2022. Profits followed the same trend, from about 0,4M to 80 000 euros. The numbers have improved since 2022, with turnover at 2.1M euros and profit at 180,000 euros in 2024. This financial development aligns with the adoption of GenAI. Later, the development of strategic tools continued. Using the new tool to explore new business enables rapid evaluation of strategic opportunities.

"We made an AI augmented business case calculator for a client and have used it quite a lot ourselves for building quick business cases. It turned out pretty good...It's a quick rehearsal, and then we evaluate...I've been thinking it's like a small McKinsey consultant."

The interviewee described mundane GenAI experiments, and discussions with colleagues confirmed the value of the insights. Daily, playful strategizing with GenAI led to the development of practical AI skills, an understanding of models' current capabilities, and strategic thinking. Additionally, the interviewee noted that using the best available GenAI tools for the chosen task and the possibility of being inspired by surprising AI suggestions were important factors in enhancing the quality and creativity of strategy work. A combination of intentional and exploratory conversations with AI in a relaxed atmosphere was important in

staying informed of the current state of AI development and yielded strategic insights that could be further developed through human perspectives. Skill development, as well as tool development resulting from daily experimentation, seems to enhance the assemblage's sociomaterial value. Discussing with AI while being in a social context with humans emerged in the interview as a situation in which new ideas surfaced and were discussed among participants. This effect could mean adding new social or other perspectives into the thinking process that are not available to AI, in addition to social confirmation of the quality of the ideas discussed.

The interviewee discussed the importance of framing topics of interest in a precise textual form to elicit high-quality insights that support creative ideation and refining the ideas through human perspectives. Input texts are material artifacts that make reflection visible and require articulating social and contextual knowledge, potentially leading to the codification of tacit knowledge. Furthermore, routinized daily conversations were viewed as a means of facilitating creative thinking and refining strategies. These patterns reveal the entanglement of the material aspects of data, choice of AI model, text, and AI reasoning with the socio-emotionally constructed enthusiastic praxis of ideation, idea exchange, and validation.

“They are like lucky incidents. I tested a prompting style on an AI model, and just wrote something...I just tested it, and looking at the result, I thought it was spot on! I shared the idea with a colleague, and we thought it was quite daring, but good.”

“I had reasoning model on, and I just happened to write some stuff about founding a startup, and the AI output was unbelievably relevant and good!... For market analysis, for example, deep reasoning is excellent.”

“It’s a bit like a game, while doing something with friends, I might simultaneously do, with the best available model, of course, something like new homepages for us. And then look at that, “hey, now it can do this and that quite well”...Depends on the context, in start-up ideation it’s more playful than in a corporate environment.”

Once a set of directions and norms was established for the AI, the informant found that the efficiency of strategizing routines was significantly enhanced. The quality of strategy text as an artefact of tool development in conversations was believed to be integral to the quality of strategizing. Themes of balancing episodes of human judgment and AI-driven reasoning, and of an AI-assisted way to reflect on one's own perspectives objectively, were identified as important opportunities to improve the quality of the strategy process in the interview. Although AI can assist with many tasks, one's own effort in the process seems to foster a sense of ownership and achievement. Another emotion-related factor was the use of AI to facilitate contemplation of emotionally difficult subjects. It seems that AI could be intentionally used to reveal strategically blind spots, that people have forgotten or taken for granted. Asking AI to review strategy texts for the final review was considered good practice to identify mistakes or missing elements.

"I realized that if I prompt in this specific way, I get my work done super efficiently. In September last year, I built myself a tool that significantly changed my work. However, I didn't use AI for the last strategy paper I wrote, so it was not part of that process. But I asked AI to analyze risks when the paper was done... this kind of subjectivity is a relevant perspective, although generally it's not a high priority for me."

"If you want to maintain subjectivity in the core of the strategizing, it's good to use AI to shake your perspectives ...I use AI to make me think unpleasant things I would not normally like to think."

Creativity with AI was a recurring theme, and the informant emphasized that it can be enhanced through AI-enabled selective reflection, in which human judgment and the ability to critically evaluate AI results are required to determine novel directions for exploration. Furthermore, AI was seen as enabling rapid exploration and refinement of new perspectives that, according to the informant, changed the practitioner's thinking, fostering a positive, mutually sociomaterial development process. The interviewee believed that the creative

process had no place for automation, but that strategic thinking at the highest level was a key driver of success.

“When used correctly, AI is an incredible, an incredible opportunity. And, in a way, in creativity, you need to decide which parts to keep to yourself. Using, for example, deep research to challenge your thinking can lead to many good opportunities.”

“Much has changed; it’s possible to test ideas by putting a couple of research prompts. Then it has made the strategy cycle faster.”

“Maybe one problem with, for example, these deep reasoning reports is how I’m able to evaluate the quality of them.”

“In strategizing, I don’t find any use for autonomic AI.”

Furthermore, in creative strategizing, tasks such as validating, refining, and contextualizing AI outputs were identified as mandatory and required significant practical work. The interviewee equated AI outputs with human outputs; both can provide important insights, but they should be verified. Inscrutability, the generic nature of AI outputs, and contextualization seem to be natural elements of AI-strategizing rather than barriers for the informant.

“I treat AI outputs as raw data or drafts... You always need to filter the results, and it’s simple for me. I don’t get anxious if there are hallucinations; we all experience them anyway.”

“The results always need to be validated. And I know I can’t fully understand how the results are produced... It’s good to relate to the results from a human perspective. They might be interesting to hear, but it’s never good to trust them blindly either.”

Collaboration with AI requires a range of abilities and skills. The interviewee believed that a deep understanding of strategy, strong communication skills, and practical AI skills are the key competencies for successful AI-strategizing, combined with curiosity about the possibilities of AI-strategizing. These factors seem a natural combination for AI-assisted strategy

work. A negative attitude toward AI and limited practical AI skills could be barriers to putting effort into refining the quality and creativity of the strategy, as the informant suggested. As the interviewee emphasized earlier, the human role in enhancing creativity and the quality of decision-making is integral to the collaboration, as the strategist sets the direction of the conversations, evaluates and contextualizes the outputs through reflective thinking. An ability to strategize effectively in collaboration with AI appears to be a sociomaterial combination of skills, characteristics, and knowledge, likely situated within a specific AI tool in a specific context.

“First, you need pretty good competence in strategic thinking and understanding of what strategy work is... and then you have to be able to express it. Then you need a pragmatic understanding of possible technological solutions.”

“It’s really good if this suspicious tendency towards AI turns into critical curiosity, but we still have that kind of a problem...and with that attitude it’s difficult to get things done.”

Three key sociomaterial results from Beta are the value of explorative praxis in GenAI adoption, the importance of human judgment in framing the exploration, and the multiple possible development paths of GenAI as a strategy tool. Explorative adoption with a playful, creative attitude led to the routinized use of GenAI in various strategic contexts, a sense of personal ownership, and the integration of diverse human perspectives into the process. Deep sociomaterial integration seemed to lead to learning, strategic insights, and tool development. Human judgment in framing the exploration was twofold: clear human-set objectives were integral to high-quality results, while free-form exploration yielded additional insights that were further refined. Finally, the results show that GenAI can be used as a cognitive-emotional personal reflection tool, a collective ideation partner, and a tool for a specific purpose.

4.1.3 Company Gamma

Gamma operates in the construction industry, and the CEO has used AI for a year in strategic work, viewing it as an integral ideation partner. While working with AI has already provided valuable strategic insights, the informant believed that digitizing and integrating proprietary company data into the AI system is essential to current tool development, enhancing the quality of collaboration across tasks. Limited data availability and the perceived importance of tacit knowledge in praxis were partly seen as industry-wide barriers to the broader integration of AI, but the interviewee thought there were already significant benefits for strategizing with the available data. In addition to the CEO, a couple of other managers have used AI regularly, but there were plans to integrate AI into a variety of functions in the future. Further automation using AI agents had been discussed, but the CEO believed it was more effective to learn the fundamentals first. Seems that the industry's sociomaterial context of regulations, established routines, and the nature of praxis affect the tool-making process. Furthermore, the case company aimed to use AI as an epistemic tool to articulate its values and current state, enabling a strategy redefinition based on its strengths. The strategy-tool-making process appears to be shaped by the company's sociomaterial history and culture, which in turn direct the tool-making and strategic exploration process.

“First, in the construction industry, we have to get from papers to digital form before we can properly benefit from AI... so that it would be integrated into all systems.”

“AI has a central role in my strategizing...I always train it while working on company-related tasks, so it can better help us define, create, and measure strategy. It's good already, but now we don't have the more specific training data yet...a long-term goal is to digitalize tacit knowledge and the spirit we have in the company.”

“I discussed the possibility of using AI agents, but we haven't had time to test them...We could assign tasks for the agents to search for specific information.”

A theme of intentional tool-making aimed at developing data-grounded decision-making emerged. The interviewee believed that in the future, AI could be adopted in construction functions across all managers to create strategic visibility and enhance the quality of decision-making. The planned expansion of the use of AI in decision-making requires a reflection of the sociomaterial foundations of the current decision-making practices to succeed in adding AI to the decision-making process. In addition, transitioning to data-based decision-making likely requires sensemaking to establish a shared understanding of how proprietary data will be generated, which data are valuable, and how to capture the tacit, practical knowledge embedded in the construction activities that generate the theory of the firm from collected data. The informant discussed learning in the tool-making process, where regular use of AI facilitates understanding of the tool, practical AI skills, and critical thinking. Furthermore, the enhanced understanding enables a more precise grasp of the opportunities presented by realistic use cases and the complex sociomaterial nature of the tool-making process.

“Our goal is to move towards data-based decision-making more than feeling-based, and I’d say it has already helped the decision-making...but the more you use AI, you notice the mistakes and limited capacity of it, and probably the specs I give it have something to do with it also. Anyway, the more I use it, the better my critical thinking gets...which is good, because then I learn quite a lot by using AI.”

The interviewee continued to discuss the human role in decision-making and emphasized the importance of clearly articulating valid strategic objectives and contextualizing discussions to enhance the quality of AI outputs. Continuous experimentation in the strategizing context was seen as the best way to improve thinking skills and overcome adoption barriers related to inadequate AI skills, generic outputs, and situational issues. It appears that the ability to discursively frame discussions with AI requires a combination of strategic competencies, life experience, and company and industry knowledge, which transform into practical knowledge through thoughtful praxis. Furthermore, the nature and affordances of the

tool appear to be developing layer by layer based on the combination of goals, competencies, and practical building activities.

“It’s about asking the right questions and knowing how to prompt... You need to understand what you’re doing and your goals... You must have the competence to evaluate it... Maybe the most important thing is to use it... to learn how it works and to understand the level it operates at... and the amount of context you provide greatly influences the output... the more specific your prompt, the better the results you get.”

In addition to goal-oriented strategizing, mundane conversations with AI yielded surprising strategic insights. Maybe a different working environment facilitated novel thinking through a minor change in practical work. While training AI on proprietary data, the respondent experienced a moment of strategic clarity during a discussion of a new business model. Strategic storytelling may have facilitated creative reflection on the elements of the ongoing strategy process. Setting the objectives and philosophical foundations for strategic tool-making was facilitated by integrating the company's material and social aspects in conversations with AI.

“One time, I was on a train and just started to clear our old Trello file, charts, and info. I threw them into an AI project and wrote simultaneously, describing the content and the importance of people...I had already trained the AI on our new business model, and we began conversing; it generated a summary. It summarized the philosophy of our model in a way that made me realize the big picture in addition to small practical tasks...my thinking expanded to the strategic level, and maybe back to the practical level, that was an eye-opening experience.”

Besides episodes of major strategic insights, AI was perceived as a useful partner in sense-making, enhancing the overall quality of strategizing episodes through the gradual development of insights. Especially analyzing cognitively demanding subjects was highlighted as a helpful practice. AI facilitates thinking by enabling rapid sensemaking through the deconstruction and rearrangement of materially and conceptually demanding tasks. However, the experience was that AI results are inconsistent, so the practitioner must remain alert and

verify outputs across multiple sources to achieve high-quality outcomes. The interviewee thought that integrating practical collaboration with AI into daily strategizing practices enhances the practitioner's thinking and practical skills, and that the tool's strategic value develops over time through daily use. There seems to be a cycle of mutual learning that raises the value of AI as a strategic tool and develops the strategist's key skills.

“There’s efficiency in analyzing things...the effect is positive, but how to quantify it, I cannot tell.”

“If you have had a theoretical, more complicated task, I have asked it to deconstruct and...summarize, so it has given thoughts...,smaller insights all the time.”

“The more I use it, the more critical I become, which is a good thing, because then I learn during the collaboration a lot...But it’s funny how sometimes it says all kinds of stupid things, and when I say that “come on”, it makes corrections...Sometimes I have had to google...or call an expert to verify the results. And on all three times I called a lawyer for verification, the AI result was correct.”

The interviewee noted that AI outputs contain cultural context that affects language and reasoning.

“I’ve noticed that GPT feels having a lot of US-related context... Probably in all AI companies, the answers lean towards the direction of national perspectives.”

The generic nature of AI was perceived as a threat to creativity, but the informant argued that AI had facilitated creativity in strategy discussions. The nature of AI as a tireless content creator could be used to destabilize or enhance the creativity of strategy through a stream of AI-provided insights. Properly contextualized conversations can guide AI outputs to facilitate the informant’s reflection, leading to novel and refined ideas. Creating new company knowledge and theory could be seen as a socio-cognitive process of reflecting the history, experiences, and goals of the company and the employees through lenses provided by AI.

“It helps quite well, but maybe it comes through my own experiences. Maybe it gives small seeds or perspectives, and then my own creativity starts blooming...but sometimes AI also kills creativity with generic content.”

Taken as a whole, the analysis shows that in the case of Gamma, GenAI has become an integral sensemaking partner, significantly facilitating thinking with novel perspectives. However, creativity and quality are based on holistic sociomaterial human judgment in framing and refining the outputs. Another sociomaterial finding is that integrating GenAI across all company functions seems to require significant effort and reasoning to align the distinct natures of manual construction work with GenAI's affordances. Tacit knowledge, inscrutability of AI, finding the best use-cases for integration on construction sites, and collective learning are sociomaterially entangled factors to be solved in the company-wide strategy tool-making process.

4.1.4 Company Delta

Delta operates in green technology and has subsidiaries in Finland and globally. The interviewed managers have used AI for about a year in strategizing to facilitate the planning of AI integration and governance model development toward data-based strategizing. Incompatible information technology systems, required investments, and cultural change in decision-making were considered as barriers to AI adoption. There seems to be a theory of sociomaterial benefits of an AI strategy. Improved quality and agility in decision-making were theoretically achieved by balancing the perceived objectivity of AI outputs with human judgment. Integration of material systems was required to enhance the transparency of strategic decision-making. The development of a governance model could guide decision-making; however, the model remains in the design phase.

“Our strategic themes are way of working, developing operative agility, and servitization...and of course we want to exploit data-driven decision-making.” (Interviewee 4)

“For sharing and analyzing data, we are aiming to integrate systems that include all functions, so we can combine all information we receive from clients, markets, and suppliers...we are enhancing transparency across the entire organization.” (Interviewee 5)

“If we are talking about IT systems, we should be able to integrate everything. We shouldn’t consider any future investments without thinking about AI integration...For example sustainability reporting. If you don’t have AI involved, it’s quite a laborious process.” (Interviewee 4)

“Maybe data-focused management to enhance strategy work...we try to transform so that it would not be as person-dependent, but rather tools and systems. The data architecture and reporting systems would support the business...We are building this kind of governance model at the moment.” (Interviewee 4)

In addition to information system barriers, there is a paradoxical tension between building a data-driven decision-making process and maintaining human judgment in the loop. The interviewees acknowledged the strengths and weaknesses of both models, but they had not identified how to manage the tensions in AI adoption. Uncertainty within the industry was recognized as another barrier to investment, adding pressure to managers’ decision-making. AI assisted with analytical tasks, but integrating AI insights into some decision-making areas was perceived as emotionally challenging. Ethically unbalanced AI-generated suggestions were seen as potentially threatening managers’ freedom to make decisions that run counter to AI’s data-based analysis.

“It’s scary to discuss some aspects of our business with it...in our industry specifically, if it would recommend outsourcing functions, that’s scary.” (Interviewee 4)

“It’s a little bit scary sometimes because if you feed AI enormous amounts of data, and it says, for example, that based on risk analysis, you should shut down a business or replace 15 employees with six. What are you going to do with that information as a manager when emotions are involved?” (Interviewee 4)

"I would say that it helps significantly in analyzing...but when talking about human and emotional subjects, I don't think you can utilize AI in those subjects." (Interviewee 5)

"On my part in decision-making, it's based on human judgement and knowledge...maybe with AI you could consider more options, and get more flesh on the bones." (Interviewee 5)

In addition to the interviewees, the company's owners and subsidiaries in various countries and cultures significantly affect the adoption process. The interviewees recognized the benefits of AI for the division of labor but emphasized that AI adoption is a long process. Leadership support appears to be an important factor in creating project clarity both materially and socio-emotionally.

"In good strategizing with AI, we must remember that people do the work and advance the company, so it's a combination. There are people and the owner, and they all contribute. It's a combination in which AI strongly supports the effort, but you must also remember the human side...It feels like we are a one-year-old taking the first steps now, so it's going to be a whole different tool in teenage years." (Interviewee 5)

The case company has potential access to a large volume of data from partners, and the possibility of eventually obtaining this data for AI analysis was identified as a significant driver for the company. The interviewees recognized the complex technological infrastructure across the entire enterprise, the lack of AI-ready decision-making protocols, and organizational learning as barriers. Although there was some evidence that data could be analyzed efficiently with AI, the precise use cases that deliver strategic value remained unclear in the absence of practical experience. The sociomaterial tool-making appears to require human sensemaking and decision-making about strategic goals, which could, in turn, guide the selection of the most valuable and useful data sets from all available data for refinement in strategic exploration with AI.

“You have an enormous amount of data from customers, markets. It finds pretty quickly the essential things. We are not there yet. Maybe partnerships could be the key. We could start building that way.” (Interviewee 4)

“Maybe the challenge is figuring out what to do with all the data, how to make decisions, and being ready to change.” (Interviewee 4)

“We have a large network of suppliers and clients, so there we would like to get an understanding of what directions different fields are heading...what are the real needs of the clients.” (Interviewee 4)

The managers noted that collaboration with AI requires building trust through experimentation. The emotionless interface of AI was believed to have multiple effects on communication: some computationally demanding tasks were easier with AI, but other, perhaps relationally complicated tasks required adapting communication and emotionally more demanding sensemaking with AI than with human strategists. Given the range of adoption barriers, the interviewees held mixed views on the significance of AI in strategic work, perhaps due to emotional-cognitive tension. However, there is a willingness to continue experimenting with the technology. Communication practices and praxis appear to require adaptation in the process of tool-making, and the nature of knowledge creation may necessitate trade-offs with certain human-related knowledge that cannot be translated into a form that AI can process.

“We humans are in a way protective, so building trust takes some time...and AI doesn't have feelings, like human understanding. You must relate to it differently; it makes information refinement easier, since we have only a fraction of our brain capacity in use. It's like in human relationships...we get more experience step by step, and learn how we can apply it.” (Interviewee 4)

“It totally lacks the ability to reflect feelings...you know, it can't interpret my gestures or facial expressions and things we usually see in interaction, so the relationship remains pragmatic.” (Interviewee 4)

“On my part it doesn’t have a significant role yet in my strategizing, I aim to increase the use of it as a support.” (Interviewee 5)

Although the respondents had reservations about the nature of human-GenAI communication, another interviewee believed that open reflection with AI improves self-leadership and confidence by enhancing clarity and focus. Furthermore, the interviewee believed that AI supported trust-building and interaction with potential clients, providing contextual insights into cultures and specific companies. The emotional effects of AI seem twofold: interacting with AI may feel unnatural and incomplete, but it can also assist in interacting with other people by providing general-level contextual information. The results suggest that AI can be used to structure and prioritize tasks, and to support the strategist’s identity work.

“It’s a good partner that you can discuss openly with about what you do and what you should do, and it immediately says that you should do this and this, you could think about these things, focus on these, and pay less attention to those things. So it provides direction and clarity. That boosts self-confidence in my opinion.” (Interviewee 4)

“It gives me more confidence about what not to do. We, people can spend time on less important things easily, so you can use it for self-leadership and structuring your day, asking is this useful or what’s the meaning of that.” (Interviewee 4)

“You get an objective perspective about what you are doing, so it helps you to reorient, to think again what to do next week.” (Interviewee 5)

“In my case AI may help with emotional intelligence, so I can understand different cultures and behavior and how they experience and see things, and that brings more elements to interaction, resources so I don’t have to learn through mistakes...for example if I have a meeting with clients, I can check this firm and this culture, collect background information...and same with our employees, we can be much more inclusive.” (Interviewee 4)

The interviewees reported that AI accelerates information search and analysis, and facilitates reflective conversations when provided with relevant contextual information and

objectives, leading to enhanced quality of strategizing. The knowledge created in the collaborative refinement process appeared to be a result of human-set objectives, sources accessible by AI, proprietary data, and the iterative process of sensemaking, which facilitated rapid ideating while AI addressed bounded rationality.

“It’s a great help for ideating, and as a sparring partner. And as I give it more directions and questions, AI is great in that kind of work.” (Interviewee 4)

“Generative AI is a super good aid in analyzing, summarizing, and crystallizing, and simplifying even large masses of data that took a lot of energy, and you can manage it a lot easier.” (Interviewee 4)

“I use it for collecting and analyzing information and as a sparring partner...it’s so quick if you think of looking different sources.” (Interviewee 4)

“People have to contextualize AI outputs, that must be done always.” (Interviewee 5)

AI was believed to improve the implementation of the strategy. The informants reported that the analysis and adjustment of the strategy's implementation were more efficient with AI, as old proprietary data, strategic goals, and new information on the implementation's success could be reviewed to enhance precision through the tool's development.

“Sparring with AI in a strategy context... we have a yearly plan and goals. I often discuss with it whether we are going in the decided direction or if it is against the plans.” (Interviewee 4)

Practical, curious experimentation was believed to be the best way to learn to use AI. A curious attitude that facilitates practical exploration was thought to result in strong AI skills, which were perceived as a prerequisite for using AI for creative strategizing. After a year of exploration, the possibilities for enhancing creativity in ideation were assessed as versatile and valuable.

“It comes basically through experimenting fearlessly, that how you learn by experience, only imagination as limitation...that’s how I started as a novice.” (Interviewee 5)

“I also think that the ability to understand it and the possibilities for different applications come from practical exploration and following AI trends, so basically curiosity is the main thing we foster.” (Interviewee 4)

“And in creativity, it’s amazing. It significantly enriches ideation, and there are many ways to do it. And again, if you haven’t been curious about it and haven’t experimented with AI, you don’t understand what it can do for you.” (Interviewee 4)

This section highlights three main sociomaterial observations: the paradoxical tension between data-driven decision-making and human judgment, the complexity of adopting GenAI within a multinational company, and the value of practical, curious exploration in adopting GenAI for strategy work. The results show that GenAI adoption requires cognitive-emotional reflection, both on the company and individual levels, about the new strategizing context to facilitate trust-building and to achieve strategic objectives. Sensemaking and explainability practices, as well as clear policies on the ethics of collaborative decision-making, seem integral to effective human-GenAI strategizing within a larger SME. The integration of socio-material factors among subsidiaries with various cultures and technology infrastructures appears to result in a complex tool-making process. Thirdly, curious experimental GenAI adoption seems to lead to the strategy tool being developed in a company-specific direction. Relational, cultural, data management, and self-reflection needs guided the tool-making, and lack of trust partly inhibited GenAI-facilitated reasoning.

4.1.5 Technology strategy consultant

The interviewee is a strategy consultant specializing in helping software companies grow and believes that AI is an integral strategic collaborator. The message was that AI has the potential to enhance the quality of strategizing, and companies should begin experimenting

with AI as soon as possible to find their own way to build and use the strategy tool to remain competitive. Furthermore, the interviewee suggested that goal setting and visioning at the beginning of the strategy process, as well as final decision-making, require human judgment, whereas AI can be used in the intervening phases to facilitate the strategizing process guided by previously set objectives to create a set of refined options for final decision-making. Learning through praxis and building the strategizing process around interactive, iterative idea refinement was seen as improving the quality of tool-making. The process was seen as a practical, intentional, company-specific sociomaterial enhancement of combined human-GenAI strategy capabilities, with a clear division of labor. In addition, leadership support and clear objectives were considered integral to fostering learning during the tool-making process, even before significant results emerged.

“My strong statement is that rather than being right, it’s more important to be in the game... I believe that in strategy work, the successful people, on average, are those who make a decision and start living by it in a way that doesn’t turn the business upside down or scare the board with AI. Instead, hypothesize, act on it in the markets, and review the situation often enough.”

“Before strategizing begins, part of my job is to discuss what the owners want to achieve. That’s often the most important thing, and I haven’t found a role for AI in that discussion. But strategy work that isn’t grounded in the owners’ vision is quite a useless exercise.”

“As a sports reference, AI isn’t a tool used during the game, but it’s a way to rehearse and build a stadium. The final three hours of strategy work remain fundamentally the same, but we have a better-trained team and a better stadium where we play.”

Lack of trust and negative bias toward AI stemming from inexperience with AI emerged as a significant barrier to its use in strategizing. Inscrutability, learning requirements, interaction challenges, and a lack of understanding of AI's nature were also discussed as barriers to the efficient integration of AI into strategic work in some companies. The interviewee observed that AI adoption requires the ability to cope with emotional and cognitive uncertainty

before learning through practical exploration begins to yield insights. All mentioned barriers require both social and material considerations among practices, praxis, and practitioners, as they are interconnected. It appears that, in addition to the practical exploration of changes in strategizing practices and praxis, the management of cognitive-affective factors affecting identity and the learning environment should be addressed to facilitate tool-making.

“I believe that people with strong opinions who haven’t used AI continually in their work are dangerous for using AI in strategizing. Many of them can prevent the use of AI in strategizing because they feel insecure and don’t want to take the project in a direction they feel insecure about. It’s maybe the easiest to work with boards where most or everyone uses AI relatively broadly in their daily tasks.”

“I believe many boards use AI as a Google substitute... the results are either useless or trivial.”

“The literature doesn’t discuss enough about the depression that comes with the learning process. Some boards accept that learning is positive, and others get back to old habits when they don’t immediately understand what to do in a learning situation.”

Finding AI-compatible strategy concepts in an AI-compatible way was emphasized as a major quality driver. Learning an effective way to collaborate entails knowledge creation about both the tool and the practitioner’s thinking and behavior, and the sociomaterial assemblage strengthens through the collaborative epistemic process.

“When a strategy consultant chooses a framework and a way to use it, we can more easily notice when the AI output is useless.”

Besides learning barriers, it was noted that while AI can significantly enhance the quality of strategizing, collaboration requires human effort that cannot be delegated to AI. The use of AI may, if practitioners believe it will do the reasoning for them, unconsciously shift their attitudes toward a more passive stance. The interviewee stated that, when used correctly,

AI can facilitate human cognitive processes of imagining, assessing, and prioritizing alternatives before final decision-making. The enhanced likelihood of identifying a wide range of valid options in an AI-facilitated process was emphasized as the primary benefit of AI strategizing, and the facilitated assessment of these options was the second benefit. The creative process of inventing valid yet nonobvious options is likely cognitively and emotionally demanding. However, the use of AI appears to reduce stress and make the process more motivating and rewarding through new insights. An important element of rationalized decision-making was also pointed out. Comparisons of options can be made by balancing AI-facilitated data-based insights with managers' intuition, which has been shown to improve decision quality. It appears that enhancing the human dimension of theorizing, experimentation, and option negotiation in the decision-making stages is integral to the quality of strategy tool development, alongside AI's generative capabilities.

"Most of the time, the frustration toward AI is related to the inability to use it, or an attempt to use it too easily and not putting effort into strategy work, and causing probably only harm...The valuable things are the ones the board couldn't figure out, underestimated, or couldn't understand. Adding possible options is absolutely the most valuable contribution, and another one is a way to prioritize the options in some other way than the oracle method...based on feeling."

The usefulness of AI in the creative process was attributed to individuals' curiosity and worldview, as well as to organizational culture and leadership, which support or limit the creative potential. Human curiosity and the ability to imagine possibilities were believed to be key factors in enhancing the creativity of strategizing with AI, and the strategist's mindset directs the process toward either generating new ideas or analyzing existing options. Furthermore, the informant explained that how decisions are made during the strategizing episode affects the atmosphere and the willingness to reflect on overlooked options. Based on previous insights, the quality and creativity of human-GenAI tool-making are intertwined with socio-cognitive-emotional effects on goal-setting, evaluation, and decision-making, as well as sociomaterial interactions with AI throughout the process.

"It's a catalyst. People who want to make decisions value a good number of options when they have used creativity to find them. For those people, AI is enormously beneficial...So there is a kind of open-form thinking, assuming that there are more options in the world we are aware of, and then we have closed-form thinking, assuming that all relevant ideas are known. Then the ideas just need to be given points to get to the finishing line. Typically, in open form thinking is related to leaders who don't force teams into authority-based decision-making. And closed-form thinking goes hand in hand with authority-based decision-making. And I think AI is dangerous for closed-form thinkers, who would like to maintain authority-based decision-making...It is not easy to change from closed to open form, because many other elements of leadership are in danger."

Interviewees' experience with growth-oriented Software-as-a-service companies indicates a preference for AI-supported theorizing over data-driven strategizing in innovation. Maybe small firms lack the resources to generate the data needed to explore emergent opportunities, or the dominant mindset in the industry is to avoid them.

"I think data-based strategy work is really exceptional, and the problem with data-based decision-making is that it looks backwards, focusing on the part of the business we already have under control. Unless you have prepared really well for these kinds of emergent opportunities, because we don't yet have data on them unless we obtain data about some service, solutions, or tool we don't yet have."

Using AI to speed up the strategy process and help generate a significant number of ideas humans might not consider otherwise was mentioned as a quality improvement. A shorter, less cognitively laborious strategy cycle may enable more frequent strategizing episodes in a company, facilitating continuous learning and more agile reactions to environmental changes. The informant believed that people face cognitive and emotional barriers to critically examining familiar phenomena, and AI can support this process while also addressing bounded rationality. This finding could lead to biased beliefs about key strategic issues, resulting in suboptimal objective setting and analysis of strategic choices. Another finding was that, although managers recognized the need for strategic change under uncertainty, a

thorough evaluation of options, even with the support of AI, requires significant human effort and complex decision-making between the options.

“I think AI fits the OODA-loop quite nicely. First, you observe the situation; typically, the farther the market is, the more willing my clients are to proceed. The more familiar and concrete the objects we discuss are, the more reluctant people are to use AI, including when considering their own companies. The next phase is to discuss the options...and I, as a consultant, can help in this unpleasant situation where a company should do something, but has not yet decided what to do...Also, a related thing is that the quicker you can go through the OODA loop, the more often you dare to go through it.”

“AI is excellent for mapping options, and usually people don’t seem to do it enough. The next phase is decision-making, and I don’t think AI is very useful there, but for making comparison charts, it could be useful. Usually, decisions are being made between two or three options when there are easily 15 relevant options.”

While AI can assist with identifying and analyzing strategic alternatives, the interviewee emphasized that people may need time to reflect on and interpret the propositions before making a final decision. Furthermore, considerations regarding the strategy's implementation from socio-cognitive and power-related perspectives were considered time-consuming.

“It is essential to give the decision-making team time to reflect on the decision phase by phase, so that in the end they are really ready to make a decision. And that they have first made easier decisions, choosing from alternatives, collecting alternatives, calculating opportunity costs, and assessing risks. These are extremely valuable tasks... Decision-making can be fast, but time is needed to assess the alternatives...and the things you didn’t do. Choosing all these tasks takes quite a lot of time in reality...and why it’s socially so tricky, it’s because of the principal-agent problem...I think that the best CEOs can navigate the principal-agent problem in a way that all members of the board feel the chosen strategy is better than not implementing it.”

The importance of continuously verifying AI outputs as a quality-enhancing practice was discussed. Verifying AI insights might be a laborious process, but producing high-quality

outcomes probably requires high-quality data and focused praxis to enhance the total quality of the sociomaterial tool-making assemblage.

“In the more successful firms, people usually talk like “I found this with AI, looked at it, and verified the results”...If someone shows unverified AI outputs, it’s quite inefficient, because sometimes the discussion goes down wrong tracks.”

The interviewee believed that AI is a useful tool for developing and refining strategy texts through discursive reflection.

“Last time I had a situation where I created a draft of a pitch for a startup. They are looking for their next million in funding, and we were refining verbalization to keep the pitch short, and the client found an excellent verbalization by utilizing AI during our TEAMS meeting.”

Furthermore, strategizing with AI was said to require strong expertise in the strategic domain and an understanding of the specific context. In addition, practical knowledge of AI's applicability in varying contexts and the ability to negotiate the meanings of AI results emerged as important factors for successful strategizing. Hence, the value of exploring distant strategy options depends heavily on the company's strategic objectives and context. The interviewee thought that using AI in strategizing requires strong socio-emotional competencies, such as self-confidence and relational skills, to discuss AI suggestions in a team while leveraging everyone's unique competencies. It seems that skilled individuals can enhance their domain expertise with AI, and decision-making based on diverse data perspectives requires strong relational and communication skills, as well as time to negotiate the most suitable decisions.

“If we have a group of possible futures and in addition a number of impossible options, a fiction if you like...and if we ask AI for 30 ideas, it’s down to the manager’s competence to drop the fictional ones...There can be startups where we discuss those ideas that seem impossible at first.”

“It feels that AI enhances skills of both the experienced and young, but the risk with the inexperienced is that while they can be smarter 90% of the time compared to previous times, the limited life experience prevents them from knowing what is possible. I see it as a greater risk for people who don’t understand the industry or the company.”

“It requires self-confidence and the ability to reflect, that you understand the areas you are a specialist in, and your core competence exceeds the abilities of average AI. But you must also be confident in functioning in a situation where you receive plausible suggestions, both within and beyond your strong domain. It requires social competence in a board to recognize everyone's abilities in a way that in the case of different AI suggestions, it cannot always be the CEO who decides which AI suggestion we support and which we don’t.”

Most notably, the analysis reveals that human-GenAI strategy tool-making is a cognitive-emotional process, and GenAI adoption for strategizing requires practical, patient learning to develop new practices and skills for evaluation, decision-making, and understanding GenAI. The importance of the division of labor is clear: humans are responsible for framing and defining what is important and high-quality, while GenAI can significantly facilitate strategic exploration, issue rationalization, and option prioritization. Lastly, it appears that the concepts of quality and creativity are sociomaterially constructed, and they can be refined through curiosity, worldview, sensemaking, negotiation, and practical effort.

4.1.6 Communications strategy consultant

The interviewee is a consultant working with companies across various industries on business and communication strategy, and AI has supported this work for years. It was argued that AI can produce strategy reports comparable to those produced by strategy professionals, and the significant change in the time and effort required for strategic analysis has

reshaped the consulting industry and may present an opportunity for SMEs to gain a competitive advantage over larger enterprises. Industry reports that provide basic information about an industry and its main competitors may require little human creativity or situational judgment, since much of the information is available in public sources, depending on the industry.

“AI is a really good and interesting tool with current abilities in consultancy business, where it already substitutes human work...for example if our company would need to get to know a new industry instantly, a junior would grind information for two to three days making a memo...nowadays those memos can be created in seconds utilizing AI, and the quality of the memo is better than average work of a freshly started colleague.”

“There are interesting differences between organizations. Small organizations are eager to integrate it, but international organizations may have protocols that prevent it...We could have a situation where small ones develop quickly while the big ones lag, and the small ones gain a competitive advantage from the quick adoption.”

Collaborating with AI enhances the quality of strategy documents when research topics are contextualized. The informant thought AI is useful for generating strategy texts, proofreading, quality control, and obtaining feedback. While using AI as a reflection partner was perceived as beneficial, maintaining a critical attitude toward AI outputs and verifying them is necessary. In consulting firms across various industries, AI seems especially useful for obtaining the information needed to understand the case context and align with the client company's more specific strategic objectives. AI apparently helps even experienced strategists to clarify strategy content.

“Copilot has this research mode, and when you start getting to know a client or a company, you prompt analysis of the company with previously tailored information.”

“We are quite aware of the fact that you should not trust the outputs blindly.”

“The algorithms are especially good at analyzing and summarizing large quantities of data...typically, already when we meet a potential customer, for preparing for

discussions, these kinds of analyses come with astounding precision...Of course, we review the document carefully, to ensure it looks valid and all words mean something, but more than once a client has said "precisely", and the discussion goes forward."

"Today I worked on verbalizing a business strategy of a client... into a form that normal people understand...I have made a massive tailoring into Copilot so it knows what I'm working on, what kind of text on what language, no bullet points, and so on. So I asked if the document I wrote was good. It reviewed it and said it is really good, but then pointed out that it would be good to have more concrete examples of what these policies mean and how they are measured. Everything it said was correct, but I may have only brought these things up in the introduction. So it's a great partner."

The interviewee discussed further AI-generated texts, noting that while the quality is mostly good, it sometimes lacks meaning. The same logically applies to all AI-generated content that requires active human praxis for refinement and guidance in tool-making. Although the text produced by AI would have errors, the perspectives could be used to facilitate creative exploration.

"It produces a little bit better text than just graduated junior historically did, but you have to read the text really carefully, because it produces sensible sounding sequences of words, but when you look a paragraph long enough, you might notice that it doesn't make any sense, and it has to be fixed and practically rewritten."

The importance of diverse ideas was highlighted for the quality of strategizing, but the interviewee was not convinced that AI provides sufficient diversity of perspectives in the strategy process. Perhaps it is up to human strategists to ensure that diverse human perspectives and theories are considered and scrutinized in collaboration with AI to enhance the strategy's creativity and quality. Refined insights could be integrated into the strategy tool-making process, enhancing the value of the proprietary data and the theory of the firm.

"If you have a room full of people thinking about strategy, it's useful to have different perspectives and even creating them artificially, challenging. In terms of thinking, diversity is important in a process where AI is applied, but is it in the data?... It is essential to have it in the process...And you can also ask AI to criticize its own output."

The interviewee believed that AI-generated strategies based on historical data cannot be creative, but strategy professionals can use AI to facilitate the combination of imagination, socio-cultural knowledge, and intuition to generate ideas for new, plausible innovations. Seeking alternative perspectives and criticism of ideas were examples of thought-provoking practices to enhance creativity and quality in discussions with AI. While the interviewee believed AI generates mediocre strategies, it requires strategy professionals to raise the quality of strategizing to clearly demonstrate the human role in creating value in strategy work. The human ability to relationally understand human needs was emphasized as a major strength. Another human strength appears to be the ability to think in novel, value-creating ways that can be applied in a specific industry context, leveraging an understanding of human nature. In the context of strategy, a combination of strong domain and practical AI skills was mentioned as a requirement for producing creative, high-quality results.

“You see a lot of stuff that has been carelessly made with GPT, and they think it’s enough...it produces the word sequences as if it were looking at the world through a rear-view mirror...Steve Jobs once said about innovativeness that you can’t discuss the future of the business with a CFO who sees only the past in Excel...The creativity, human-like creativity, isn’t on a level that it could produce insights; they are more like averages.”

“We need interesting things...something humans can relate to, that they are ready to pay money for...so doing something against the rules makes it interesting. I think there’s a risk of mediocrity, because it is based on retrospection...I think sparring with AI enhances, for example, the quality of strategy documents. Ask it to present alternative perspectives, critique, and so on, to get your own thinking to another level.”

“There isn’t any more need for mediocre strategic thinking by humans, because AI does it fluently...it can be cruel for the young and experienced, but in strategy work, people with deep expertise and powerful AI skills are going to survive in job markets...You have to achieve the top of the corner of five stars from five for your strategic abilities, or else someone has made the same with GPT.”

In addition to previously mentioned skills and critical thinking, discursive skills, along with a positive attitude towards technology and experimental learning, were seen as important factors in AI-strategizing. Lack of language skills and the need for continuous learning amid rapidly evolving technology were considered barriers to the successful use of AI.

“Analytical thinking is the one skill in strategy work, then linguistic capabilities, of course, since language is the interface in the system. Perhaps fearlessness and curiosity about technology, along with a willingness to experiment. These tools develop so quickly that also in a strategy context you must be able to experiment enthusiastically and creatively...how did I put it last time...experiment like crazy.”

A central observation within this case is that while GenAI replaces significantly human labor in creating strategy documents, and quality control, only humans can create truly novel strategic innovations based on deep sociomaterial contextual understanding and imagination. Furthermore, GenAI can significantly accelerate and enhance the quality of strategizing, but obtaining these affordances strategist must have rich sociomaterial understanding of strategy, culture, and GenAI technology. In addition, high-quality outcomes seem to require significant amount of practical work even with help of GenAI.

4.2 Cross-case analysis

Cross-case analysis reveals three themes. The first theme is enhancing the quality and creativity of strategizing through an interplay of practices, praxis, and practitioners in human-GenAI strategizing. The second theme concerns the sociomaterial nature of strategy-tool-making, and the third concerns differences among SMEs in terms of AI experience.

4.2.1 The quality and creativity in human-GenAI strategizing

The results from all cases revealed that AI has become an integral element of strategizing in SMEs, and collaborative human-GenAI strategizing can enhance the quality of strategizing and facilitate creative thinking. The findings indicate outcomes of strategic renewal, formalization and structuring of the strategy process, enhanced objective setting, improved creation, analysis, and prioritization of strategic options, and improved decision-making. The results indicate that to achieve these improvements, an organization must have a supporting combination of intertwined practices, praxis, and practitioner-related factors. The importance of a curious worldview and attitude, the necessity of human effort in GenAI-strategizing, the specific division of labor across the stages of strategizing, and the opportunity to develop as a strategist while building the strategy tool were the most important findings for enhancing quality and creativity in collaborative strategizing.

The findings reveal that attitude and worldview are important prerequisites for enhancing quality and creativity across all domains of practice, praxis, and practitioners. The importance of a worldview as a set of core assumptions and a framework for interpreting and framing strategic questions, the belief that there are interesting and new ideas to explore, and the curiosity to search for and refine new insights through a practical AI-facilitated process are central findings of this study. The study identified attitudes that fostered quality and creativity, including flexibility, a combination of diligence and playful dwelling, willingness to examine one's own biases and perspectives, and critical curiosity toward surprises, new technology, and experimental learning. The analysis found that attitude affected all significant phases of strategic analysis, learning, and decision-making. A reverse effect was also reported: skills and practices were found to support a positive attitude toward strategy work in uncertain conditions. The results show that attitudes, such as ownership of strategizing and resilience in praxis, can be supported by fostering a positive atmosphere, flexible experimental learning, leadership support, trust-building practices, accountability allocation, and objective setting. Furthermore, good strategic thinking and domain skills, life experience,

discursive and contextual skills, as well as company and industry knowledge, are factors that, based on analysis, facilitate successful experimenting and creative strategizing.

The analysis uncovered recurring basic AI management practices: situating, learning, data management, explainability, verification, trust-building, interaction, quality control, text creation, objective-setting, relational contextualization, and leadership support. The results reveal the importance of interconnected knowledge-creation, creativity, and high-quality decision-making practices. The analysis of the data revealed a pattern of refining creative insights through an iterative knowledge creation process. First, useful strategic knowledge was created by combining human-related and AI-produced insights, then allowing practitioners to reflect on the results, and finally, humans decide between the collaboratively produced creative and high-quality options based on human judgment. The study found that the quality of human decision-making in the context of AI-strategizing depends on participants' understanding of AI, leadership style, self-confidence in discussing AI-enabled options, and bias toward AI. Therefore, the results indicate that the quality and creativity of the options must be understood, trusted, and supported in the final decision-making.

The analysis shows that skilled and knowledgeable praxis supported by practices affects the quality and creativity in multiple ways. The study identified the incorporation of AI collaboration through daily exploration as the key to learning, building the strategy tool, and improving the overall quality of strategizing. Participants emphasized the importance of framing subjects, articulating human-related knowledge, AI-facilitated theorizing, collaborative search, and idea development as integral activities in theory and knowledge creation, tool development, and learning. In addition to intentional praxis, the analysis highlights the value of collaborative exploration of dwelling types with AI and humans in an enthusiastic atmosphere, which facilitated the generation of creative ideas. Moreover, the findings indicated that AI can be used to reflect on one's own biases and to improve self-leadership and self-confidence through reflective conversations. The study identified that while the division of

labor facilitated sensemaking and data analysis significantly allowing rapid production of strategy reports and strategic alternatives, substantial human effort was required to refine and reflect the value of AI outputs. The analysis revealed that effective praxis entails selecting the most useful data sources, tools, and strategy frameworks, and facilitating the process's direction, quality, and creativity through human knowledge and critical thinking.

The findings indicate that, in addition to a curious worldview and attitude, strategists must have a combination of critical thinking skills, strategy domain skills, discursive and relational skills, company and industry knowledge, and AI-related knowledge and practical skills to strategize effectively with AI. Willingness to learn was emphasized as an integral enabler of AI strategy. However, the results also revealed that practical exploration enhanced these skills. The results reflect a change in strategizing competency requirements and a need to keep up with the development of AI technology. Another recurring theme in the data was the importance of securing diversity in strategizing through diverse human perspectives, experiences, backgrounds, and ways of thinking. The findings indicating that the quality and creativity of strategy depend largely on humans in AI collaboration provide evidence that the complex combination of human perception, skills, and knowledge is a key factor in the collaboration.

In addition, learning, tool-development, the development of proprietary knowledge and theory, and the possibility to go through a strategizing episode more frequently due to rapid exploration and lighter cognitive stress probably enhance the strategizing quality with time. Although AI facilitates strategizing, a significant finding was that the amount and quality of human effort required for creative, high-quality strategies may be higher than before, given the relatively high quality of AI-generated strategies.

There were multiple factors across the cases that improved the quality of strategizing. AI offers a way to quickly and at low cost gather and analyze data, potentially providing a

competitive advantage for agile SMEs. Multiple interviewees believed that AI can already produce industry reports that serve as useful starting points for more complex, company-specific strategizing. Conversations with AI facilitate reflection and sensemaking of strategic issues, leading to the exploration of a broader set of alternatives and ideas that would likely not occur without AI. Reflecting on psychologically unpleasant or too familiar issues was believed to be easier with AI in multiple interviews. In addition, skillful use of AI enables rapid development, the prioritization of ideas, and quality control of strategy ideas and texts. Even while AI facilitates rapid exploration of ideas, people still need time to reflect on options before making decisions. The use of AI was often mentioned to develop critical thinking and focus on mundane strategizing.

Most interviewees reported that using AI enhances their creativity through collaborative reflection and new perspectives. However, creativity was believed to arise from curiosity and an attitude that there are unknown concepts worth exploring. Additionally, creativity was linked to life experience, theorizing, and the ability to bend conventions in given contexts. Furthermore, enhanced quality and creativity were believed to require active, iterative idea development and a combination of strategic thinking, AI, and industry understanding. Multiple informants believed that AI could threaten creativity or motivation by producing generic content.

Multiple drivers and barriers were discussed in the interviews. The rapid evolution of AI was believed to require constant monitoring to understand the opportunities it offers. The topic of situating AI within the company emerged as important in all interviews. Depending on the context, different themes were emphasized. Tailoring AI to preferences and proprietary data was common, but some companies developed strategies without building technology infrastructure or gathering substantial proprietary data, whereas others required significant effort in these areas. The quality of data used to develop an AI tool for the company context was also a recurring theme, as different industries and company structures likely drive

distinct data management needs. Multiple informants also stressed the importance of linguistic abilities in building shared understanding and in creating knowledge with AI. In addition, psychological safety, flexibility, and leadership support were seen as important factors that facilitate curiosity-driven daily experimentation, which was viewed as integral to AI adoption and learning. Trust-building was perceived as an important activity, since depending on AI and domain skills, the inscrutable and generic nature of AI was reported by several interviewees to inhibit the use of AI. However, multiple interviewees think that ambiguity is a natural part of human-GenAI strategizing and requires practices such as contextualizing, sensemaking, and verifying outputs.

4.2.2 The sociomaterial nature of human-GenAI strategy tool-making

The findings reveal that the strategy tool-making with generative AI should be viewed as sociomaterial process, in which social and material elements are entangled in all dimensions of strategizing. The results indicate that the sociomaterial context of a company significantly affects AI adoption: technology companies had a strong sociomaterial understanding of technology, and a tendency to develop AI-related technology products. Companies operating in traditional industries had various drivers and barriers depending on company context, objectives, and industry. The analysis identified various barriers across cases, including a lack of trust and AI understanding, bias toward AI's usability, inscrutability, learning, interface and interaction, lack of decision-making protocols, ethical questions, industry uncertainty, technology infrastructure integration, data management, company structure, and investments. However, the data showed that the dimensions can serve as drivers or barriers, depending on the company's sociomaterial context.

The results indicate that human-GenAI strategizing affects the meaning and nature of strategizing through materially, cognitively, and socially changed nature of practices, praxis, and practitioners. The informants reported that the changed materiality had multifaceted

effects on knowledge creation, interaction, reasoning, and decision-making. The findings show that the agency of humans and AI is intertwined across activities, influence, and decision-making, making it difficult to disentangle individual actors' contributions from the final outcome. Another theme emerging from the analysis was the sociomaterial development of the tool as an assemblage of human knowledge and skills, the AI model, proprietary data, technological infrastructure, strategy practices, organizational knowing, and the praxis of collaboration.

The analysis of data reveals a set of beliefs that efficient strategizing requires collaboration with AI to address human weaknesses, although it emphasizes that the quality and usability of AI outputs should not be trusted. The attitudes of critical curiosity and distrust, as well as admiration and amazement towards AI's capabilities and outputs in transforming strategy work, emerge in the analysis. Furthermore, human strengths, despite their weaknesses, were recognized across all interviews as the drivers of responsible, high-quality, and creative strategizing. The analysis reveals a shift in a sociomaterial concept of good strategizing.

Based on the analysis of the data, the materiality of strategizing is concentrated on data and infrastructure management, division of labor, text, the effects of the interface on communication, strategy documents, and rapid information retrieval. The results indicate that the use of AI provides materiality in the form of curated information from a large search space that allows practitioners to avoid physical and cognitive activities related to information processing and search, but it requires new activities: processing knowledge into an AI-usable form, validating AI outputs against independent sources, and continuously producing text to guide and refine the process. The study identified text as a physical artifact of communication, sensemaking, and tool-making. Furthermore, the results indicate that while text limits the richness of expression and may significantly affect the interpretability of concepts in interaction between humans and GenAI, the possibility of developing thinking or texts

through collaborative verbalizing was highlighted, indicating sociomaterial entanglement of text and thinking.

Multiple social facets of sociomateriality emerged in the analysis: the nature of interaction to produce knowledge is cognitively, emotionally, socially, and contextually entangled, and the quality of knowledge creation depends on trust, atmosphere, the communicative interface's understandability, and cultural factors. The analysis revealed that the affordances and limitations of communicating socially constructed meanings were context-dependent: at times, interaction was perceived as clear and analytical, and at other times, knowledge creation or interaction was perceived as laborious, emotionally demanding, or insufficient. Human responsibility and ability to contextual and relational knowing in contextualizing and imaginatively creating new socially constructed perspectives to be used in collective human-GenAI ideation emerged in all interviews. In addition, the study found that AI outputs are socially constructed, thereby affecting interactions and knowledge creation.

Knowledge creation and the nature of knowledge were consistent patterns in the data. Knowledgeable actors identified in the analysis included practitioners working with AI, other company employees, owners, consultants, and external sources, as well as AI in various versions. The findings indicated that an interaction among these actors shaped which data were used and refined, and which sociomaterial aspects of quality, creativity, and human nature were considered in knowledge creation, thereby building the strategy tool. The analysis identified a list of skills and competencies required for the collaborative process. Open-minded intellectual curiosity and socio-emotional ability to incorporate diversity and other participants' complementary competences into strategizing and decision-making processes were key themes emerging in the analysis of creating valuable knowledge for a strategic tool. Furthermore, findings indicate that while the value of strategy content lies in its unique creativity, AI can be used to structure, accelerate, and facilitate sensemaking in the creative process. This entanglement, as described in the data, points to collaborative knowledge

creation or organizational knowing. This study identified two distinct tool-making processes: building a strategic thinking partner for reflecting and analyzing strategic issues in general, and a tool-making process resulting in a tool for a specific purpose. All interviewees used the thinking partner approach, and the technology companies had developed specific AI-based tools as part of their business model. These findings indicate the versatile possibilities of using AI to support the company's strategic goals by leveraging its strengths.

4.2.3 Differences between AI-experienced companies and new adopters

Companies Alpha and Beta were both AI-experienced technology companies, and new AI adopters were Gamma from the construction industry and Delta from the green technology industry. The experienced companies did not experience significant barriers in their AI use, and their practices, praxis, and practitioner-related aspects were compatible with human-GenAI collaboration. AI and strategy experience appear to facilitate AI adoption, given that Alpha had operated for less than a year. AI adoption was in the planning and pilot-testing stage in Delta and Gamma, and the experienced adoption barriers differed, likely due to contextual and organizational differences.

The CEO-partners of case companies Alpha and Beta are experienced in strategizing and using AI. Company Alpha offers consulting related to strategy and digital transformation, and Beta offers services in digital system development, AI, and technology consulting. Both companies have built multiple AI-based strategy products and have integrated AI into daily strategizing. Both interviewees were comfortable using AI but believed it should be carefully monitored and that learning should be continuous, given the technology's rapid development. Human capital in curiosity, strategic domain skills, practical AI skills, AI knowledge, contextualization, and situating AI around company needs seemed to be the strengths of both companies. Furthermore, neither company reported barriers to AI adoption, except for Alpha, a lack of proprietary data due to the company's young age.

Companies Gamma and Delta operate in more traditional, physical industries than Alpha and Beta, and are recent adopters of AI in this study. Both companies aimed to transform toward data-based decision-making, requiring significant technical integration, but the CEO-partner of Gamma and two managers from Delta were first exploring the use of AI in strategizing before making further investments in technology infrastructure. The Gamma CEO believed that AI already facilitates the quality of strategizing, objective-setting, creative ideation, and learning. In Delta, multiple international subsidiaries appear to complicate integration and management, and managers reported difficulties in building trust and with AI interfaces. However, the managers reported that AI already facilitates strategic clarity, the quality and creativity of ideation, data management, analysis, and self-leadership, among other strategizing tasks. The difference between the case companies, aside from their organizational structures, was that the Gamma interviewee was also a co-owner, whereas in Delta, the managers had more limited authority to influence AI adoption.

The findings indicate that technology companies can integrate generative AI into their products, given the industry's nature and capabilities. Furthermore, the data indicate that the company context and strategic objectives affect the strategy tool-making process, driven by distinct drivers and barriers to AI adoption. However, the analysis reveals that all informants were able to facilitate strategizing using generative AI for collaborative analysis and reflection, even when only a limited amount of proprietary data was available. The study found that experienced AI strategists adopted a mundane approach to AI interaction, whereas less-experienced managers faced greater trust-building challenges or frustration when working with AI. A Comparison between managers also showed that while the same themes of reflection and addressing bounded rationality emerged, all managers had unique and personal relationships to AI as a strategy tool. The result reflects the various possibilities of using AI for practical and theoretical tasks, as well as differences among individuals in their thinking and preferences.

4.3 Synthesis

Sociomaterial strategy tool-making is a multifaceted process that requires reframing of the nature of strategizing. Enhancing the quality and creativity of strategizing is possible through human-GenAI collaboration, and the strategic knowledge-creation process is significantly different from more traditional processes, requiring new conceptualizations of praxis, practices, practitioners, and good strategizing. In general, GenAI seems to offer potential to enhance strategizing in multiple ways, depending on the situation and objectives of individual SMEs. However, effective GenAI strategizing requires significant practical work and reflection. Based on the results, a curious attitude, visioning skills, AI management practices, and strategizing abilities are necessary for creative idea development and for framing the direction of the strategy tool development. The revised framework of this study is presented in Figure 21. The previously presented theoretical framework is complemented by the study's key findings. GenAI strategy tool development depends on complex interdependencies among macro, meso, and micro layers, resulting in a constantly evolving tool. Typically, tool-making leads to using GenAI as a counterpart, a thinking partner. Also, the development of specific strategy tools seems to be likely in technology companies. The results show that the adoption of GenAI in strategizing yields significant outcomes. The following outcomes emerged among cases: improved structurization of strategy work, strategic renewal, creation of the theory of the firm and strategic knowledge, enhanced strategizing skills, and improved verbalizing.

The key additions to the drivers of GenAI strategizing are curiosity, integrating GenAI into a variety of strategic activities, self-reflection, and playful dwelling with the tool. These drivers appear to be complementing each other, strengthening the overall benefits of GenAI adoption. Division of labor was also emphasized throughout the results. It allows rapid but iterative exploration of strategic ideas. The results reveal additional key practices in human-GenAI strategizing to enhance creativity and quality: reflecting on various strategic topics,

prioritizing among alternatives, structuring thinking and activities, and knowledge creation. Knowledge-related activities include reflecting on how to combine the different knowledge-creation mechanisms of humans and GenAI, and how to frame the process of knowledge creation toward strategically relevant questions. In addition, a constant need to accumulate practical GenAI-strategizing knowledge on both personal and company levels is integral for strategizing quality.

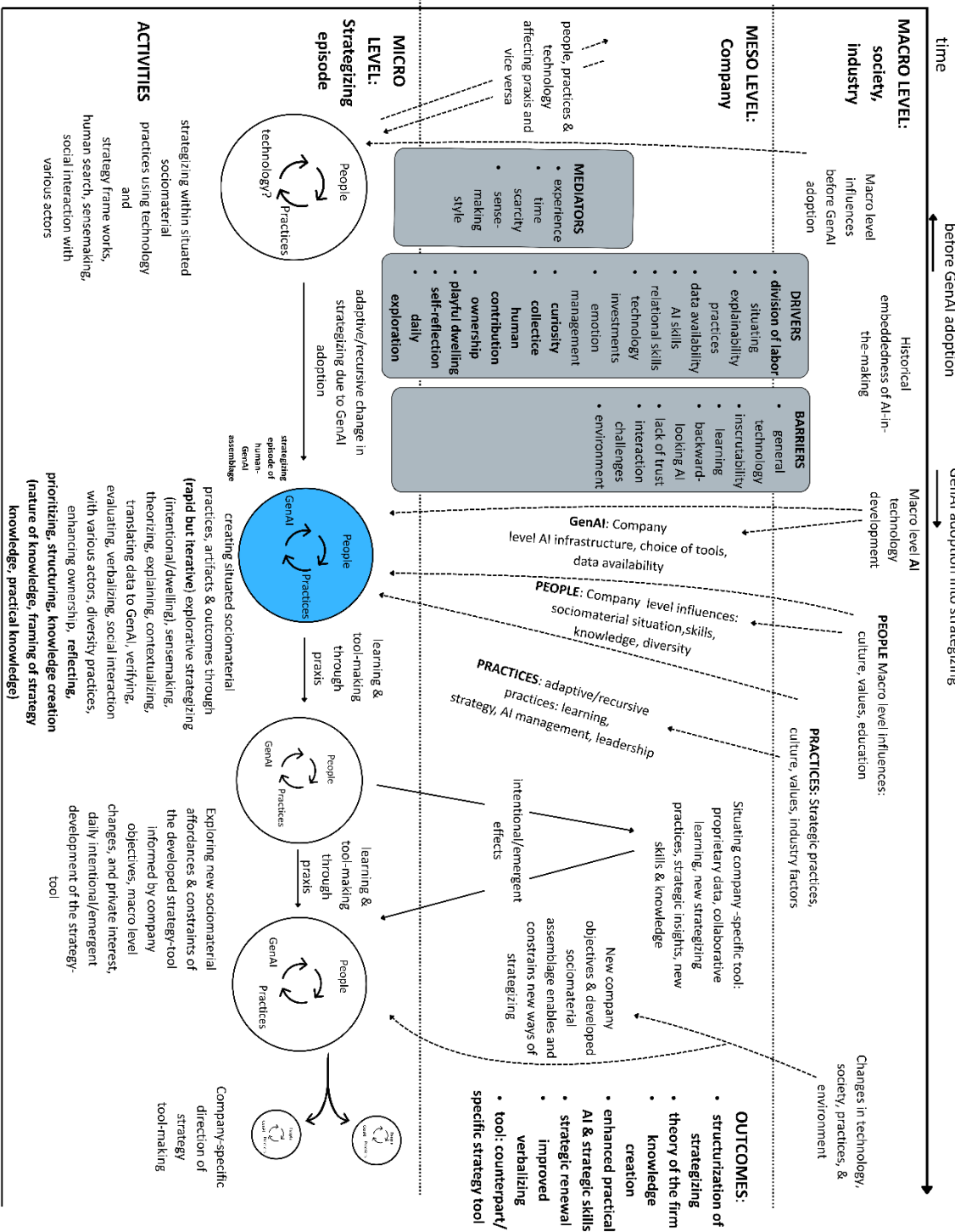


Figure 21. Revised theoretical framework.

5 Discussion

This chapter covers the theoretical and managerial implications of this study, including limitations and suggestions for future research. First, it will discuss the main theoretical contributions: the discursive-sociomaterial approach to strategizing, strategic tool-making, and generative artificial intelligence. This will be followed by managerial implications that show how SMEs can improve creativity and the quality of strategizing by adopting GenAI. The limitations of the study will be addressed before concluding with suggestions for future research.

5.1 Theoretical implications

This study offers three distinct contributions. It provides new insights into the sociomaterial aspects of strategy tool-building using generative AI in Finnish SMEs, thereby contributing to strategy-as-practice research and human-GenAI strategizing research. The interpretive research philosophy aligns well with the goal of understanding the complex and subjective realities of strategizing through situated sociomaterial strategy tool-making practices, rather than aiming to develop universal knowledge. The study adopts an inductive approach to theory development, starting from a broad theory and focusing on specific phenomena through an iterative process between data and theory.

Further knowledge about AI implementation in a strategic context was lacking, as Kohtamäki et al. (2025) and Jarzabkowski et al. (2025) called for studies on AI strategizing. Scholars have suggested conducting research on the effects of AI on collaborative strategizing (Choudhary et al., 2025; Felin & Holweg, 2024), strategic thinking (Csaszar et al., 2024), and the nature of knowledge (Jarzabkowski et al., 2025). Furthermore, Scott and Orlikowski (2025) offer a genealogy approach for producing distinct enactments through sociomaterial practices. This

study provides insights into these topics. Based on research, AI is not creative in the way humans are (Sako & Felin, 2025), but this study shows that collaborative strategizing can be used to develop critical thinking, improve the quality and affordances of strategy tools, facilitate strategists' self-awareness, and enhance the overall quality and creativity of strategic exploration.

First, this study offers new insights into improving quality and creativity in the human-GenAI strategy-tool-making process. Responding to Weiser and Von Krogh's (2023) call to explore creativity enablers in collaborative strategizing, the study shows that combining quality-focused practices, skilled, open-minded practitioners, and integrating generative AI into daily exploratory activities can enhance the quality and creativity of strategy work in SMEs in various ways. While generative AI may produce basic strategies, the findings provide insights into enhancing strategizing skills, the importance of context-specific strategy tools, and the quality of collaboration among humans and generative AI. Additionally, the study presents a framework for improving the creativity and quality of strategizing through sociomaterial strategy tool-making. It confirms Scott and Orlikowski's (2025) suggestion that AI must be reconfigured with sociomaterial practices to enact specific outcomes. The study illustrates that building a strategy tool with GenAI requires diagnosing and problematizing the qualities of the current sociomaterial assemblage, and imagining the necessary reconfigurations of sociomaterial practices to produce creative, high-quality strategies as outcomes. Furthermore, it extends Scott and Orlikowski's (2025) AI-in-the-making theory by introducing sociomaterial practices that guide performativity toward enacting creative strategizing.

This study affirms Gioia and Chittipeddi's (1991) concept of sensemaking in the development of socio-emotional understanding of new ideas and expands it within a sociomaterial context. It presents sensemaking and sensegiving as an inseparable process in human-GenAI collaboration, one that involves shared cognition and agency. The creation of knowledge—combining AI-usable and human-bound information, along with explainability, trust-building,

relational contextualization, discursive meaning-making, and motivational ownership—is analyzable through a sensemaking lens. This research extends Werle and Seidl's (2015) framework to generative AI, focusing on the roles in developing and structuring creative strategic ideas. Regarding the division of labor and reasoning styles in collaborative strategizing, this study supports the ideas of Sako and Felin (2025) and the hypothesis of Felin and Holweg (2024), suggesting that human-AI collaboration can generate novel strategic insights by leveraging the strengths of both actors. It confirms that human knowledge and reasoning abilities that AI lacks are crucial to the quality of collaboration and strategic decision-making.

The results of this study indicate that creativity and quality depend on the interaction between attitude and worldview, as well as on enabling practices, the quality of human-GenAI interaction, skills and knowledge, and the qualities of the decision-making process. These findings support multiple strategy-as-practice theories, including Jarzabkowski et al.'s (2016) framework of the interplay among practices, praxis, and practitioners, and Whittington's (1996) idea that practitioners' cognition and skills are central to strategizing. The study's findings about enhancing creativity support Balogun et al.'s (2014) notion of identity-shaping actions, Mantere's (2005) concept of the importance of sense of ownership for outcomes, Orlikowski's (2000) idea of improvisational creativity, and Knight et al.'s (2025) idea of the atmosphere's effect on developing creative strategies. Practitioners' worldview, attitude, and self-driven enthusiasm for learning and exploring strategic topics are key factors in boosting natural human creativity in collaboration with generative AI, according to this study. This role of personal excitement and ownership of strategizing confirms Felin and Holweg's (2024) emphasis on motivation in creativity and expands the frameworks of Weiser and Von Krogh (2023) and Burke and Wolf (2021) to include the importance of sociomaterially constructed motivation in the creative exploration of strategic ideas.

The findings of the study enhance previous research on collaborative human-AI strategizing by offering insights into the division of labor, decision-making, and reflection practices. The

general division of labor proposed by Von Krogh (2018), along with the more detailed theory of division of labor, rapid feedback loops, and human self-reflection by Weiser and Von Krogh (2023), is supported by this study. Additionally, this study extends Weiser and Von Krogh's (2023) model by incorporating practices such as exploring one's own biases and power considerations to ensure all relevant ideas are considered and to improve the quality of final decision-making, introducing a human reflection phase after rapid collaborative human-AI idea development. These results suggest that while AI can accelerate certain processes, human reflection and sensemaking—especially factors beyond AI reasoning—are essential. Human reasoning requires time and effort to account for various sociomaterial aspects, including ethical questions, which are vital for high-quality decision-making. Concerning factors that promote human creativity, this study confirms Raisch and Fomina's (2025) view that AI offers search spaces different from those of collective human search. Furthermore, it supports Burke and Wolf's (2021) idea of the benefits of intentional and unintentional exploration of strategic insights and expands their model by presenting a more detailed concept of AI-assisted creative exploration, featuring collaborative agency in idea generation and ongoing tool development influenced by all interaction and local sociomaterial factors.

Second, this study advances research on sociomaterial strategy-tool building through praxis by combining strategy-as-practice literature with AI strategy literature. It confirms the theory of multilevel embeddedness of sociomateriality by Vaara and Whittington (2012), Balogun et al.'s (2014) framework of multilevel entanglement of power, practitioners, discursive sensemaking, and materiality, and Scott and Orlikowski's (2025) theory of AI-in-the-making. This theory suggests that situated sociomaterial practices of AI enactment define the performativity and value in specific use cases. The results show that the concept of strategizing and the configurations of the sociomaterial assemblage were unique across all cases, indicating that collaborative human-GenAI strategizing took significantly different forms depending on sociomaterial configurations. This study extends Scott and Orlikowski's

(2025) theory by examining the context of developing a strategy tool in Finnish SMEs, where resource constraints shape performativity, as typically a single person is responsible for guiding tool development. Additionally, the tool-making processes were improvisatory yet distinctive, with some similarities at the industry level.

The results of this study show that developing strategy tools with generative AI involves creating a sociomaterial assemblage comprising humans, generative AI, practices, and the company's context. The overall sociomaterial quality of this assemblage determines the value of the collaborative strategy tool. The embeddedness of both social and material factors across all elements of the assemblage requires significant relational work to define new physical and cultural practices, to clarify the strategic meaning of tool-making, and to develop new competencies. This extends Kemp's (2024) simpler model of grounding, bounding, and recasting activities in AI adoption to generate strategic outcomes. The results suggest that, although human and AI agencies can be separated for analytical purposes, their multi-level entanglement at the macro and micro levels is ultimately inseparable and calls for a new way of thinking about strategic drivers and the roles of humans and GenAI in this transformed strategic environment.

This study confirms Jarzabkowski et al.'s (2013) theory of technology as an artifact influencing knowledge creation, Chia and Holt's (2006) concept of practical knowing as a mix of cognitive and tacit knowledge covering intentions, feelings, and socio-cultural and historical knowledge, Kaplan's (2011) idea that technology is embedded in an organization's knowledge culture, and that a culture of strategic knowledge encompasses practices for assessing the value of knowledge and negotiating strategic meanings. The findings suggest that human-GenAI collaboration mediates knowledge creation and strategic knowledge by enabling certain GenAI-compatible practices and limiting the transfer of tacit or embodied knowledge during human interaction. Furthermore, the results indicate that practitioners develop intentional and embodied knowledge-creation skills, reflect on biases in their

thinking and the knowledge they produce, and create organizational practices and relational knowledge about interacting with AI. The assemblage fosters the development of new strategic knowledge within the strategy tool. The evolving sociomaterial nature of knowledge plays a role in strategizing, likely influencing decision-making in various ways. Therefore, human responsibility for outcomes and awareness of the changing nature of strategic knowledge culture are crucial considerations in the development of human-GenAI strategy tools.

This study expands the framework of Werle and Seidl (2015) by viewing the creation of epistemic objects as a collective process. In this process, the partly inscrutable interaction among humans, generative AI, and strategic practices shapes the boundaries of processed information and necessitates practical knowledge when strategizing with generative AI to achieve valuable outcomes. The findings confirm the cyclical tool development within the framework of Burke and Wolf (2021) and extend it by adding relational factors between humans and generative AI that influence the affordances and limitations of the actors. Additionally, collaboration requires explainability, relational contextualization, and an understanding of the sociomaterial nature of collaboratively created knowledge to ensure the strategic novelty and quality of insights produced collaboratively.

Third, this study builds on previous research about how AI is used in strategy between AI-experienced companies and recent AI adopters in Finnish SMEs. Jafarzadeh et al. (2025) found that several companies preferred generative AI over machine learning techniques. This study expands on Jafarzadeh et al.'s (2025) work by showing that, despite some barriers to adoption, all the studied companies identified multiple use cases for generative AI in a strategic context. This suggests that generative AI can be integrated flexibly into strategic planning across different company settings. The study also confirms Engström et al.'s (2024) theory that practical exploratory learning, which stimulates sensemaking, leads to successful AI adoption, while exploitative adoption—such as waiting for clear integration

guidance—results in more passive adoption. For the CEOs of the small companies in the study, an exploratory approach was a natural choice, and in Gamma, there were elements of both adoption strategies, likely due to the company's size and structure.

The results indicate that experienced managers in the technology industry are comfortable using AI in strategic activities, while recent adopters encounter various barriers. Allen and Choudhury's (2022) theory that professionals with extensive domain experience using algorithms to enhance performance would become frustrated with insufficient AI outputs is challenged by this study regarding the use of generative AI for strategizing. Perhaps the uncertainty inherent in the strategy domain influences practitioners' attitudes toward AI outputs, and generative AI offers various contexts for practical strategic sensemaking. The study's findings reveal an interesting difference between companies. It appears that AI-strategizing competence facilitated the strategic adoption of GenAI and GenAI-related product development in the newly formed company. An AI-based business model was likely the foundational sociomaterial element for creating the company's human-AI assemblage, which supported the development of the strategy tool. The other technology company also adopted GenAI quickly, with earlier versions of generative AI.

The results of this study partly support the statement by Carayannis et al. (2025) that adoption of GenAI enhances the adaptability and resilience of SMEs. One company in this study reported clear market adaptation following GenAI adoption, and the interviewed consultants believed that generative AI offers significant opportunities to improve strategic agility in SMEs. Regarding innovation, the results support Grashof and Kopka's (2023) theory that SMEs in the technology industry have an advantage in technology-based innovation, as both technology companies in this study have developed products that incorporate generative AI. This appears to be a natural direction of product development, given the sociomaterial alignment of the companies toward technology.

5.2 Managerial implications

Based on the results, strategizing appears to be concentrated around one person in small companies, and generative AI can serve as a valuable reflection partner for a company's lone strategists, providing perspectives that can be further developed in collaboration with other employees. The managers interviewed for this study believed that AI adoption had significantly improved their strategizing and helped define and reflect on strategic issues. Therefore, this study recommends that SME managers begin developing AI capabilities as soon as possible. Adopting GenAI into strategizing changes the nature of strategy work and strategy knowledge. Consequently, it is important to acknowledge what aspects of strategizing the new assemblage enhance and what might be lost. The results reveal that human-related knowledge might be difficult to articulate, the nature of interaction affects strategizing, and human effort in all stages of collaborative strategy work is integral to the quality of the outcomes. The following implications are most relevant to smaller SMEs and companies in the tech industry, given the research design and sample. However, all cases showed similar results, likely applicable across various contexts.

The results indicate that human-GenAI strategy tool development can take different paths, so the desired enactments of the new sociomaterial assemblage should be thoughtfully considered to guide its proper development and to get relevant outcomes. Furthermore, choosing to enact quality and creativity in strategizing configures strategy tool-making and requires specific practices and qualities from the practitioners. The complex sociomaterial interdependencies in the process of AI-in-the-making also mean that the tool must be reconfigured regularly. Experimental integration of GenAI into daily strategizing and strategic thinking is an efficient way to simultaneously develop AI skills and strategic thinking, and to situate the company-specific strategy tool. Creating strategy tools should be viewed as an ongoing capacity-building process that involves changes in strategic practices, skills, attitudes, and daily routines. This study indicates that humans are the key to high-quality

strategy work and that GenAI can significantly facilitate human strategizing. Humans are responsible for the overall configuration of the sociomaterial assemblage, theorizing, framing, and interpreting strategic questions, and making final decisions, while GenAI facilitates ideation by providing drafts for refinement and rapid analysis.

The results of this study indicate that the benefits are significant when the sociomaterial assemblage aligns with the company's context and goals. This involves situating the tool-making process within the company's environment, resources, and personnel, and developing company-specific practices and knowledge-creation methods to enhance creativity and quality. The findings also suggest that collaborative strategizing routines that combine quick, collaborative idea generation and refinement with slower human reflection enable the development of creative and high-quality strategies. Reflection and sensemaking are essential for reconfiguring the strategy tool to move in the desired direction. Critical thinking includes reflecting on the nature of created knowledge, emotionally challenging topics, and the biases of all participants. The study also highlights that hidden assumptions, psychological safety, and power dynamics influence strategizing in the GenAI context, and managers should consider the effects of these sociomaterial factors in strategy work. Additionally, attitudes, worldview, ownership, and motivation regarding collaborative strategizing significantly shape the tool-making process and its outcomes. Learning and developing new strategizing practices require time and effort, and a safe environment for exploratory learning is crucial for humans working with GenAI in strategy tool development.

All participating companies in the study experienced strategic benefits within a year of adoption through practical learning, but explainability and trust issues were consistently raised. This study suggests clear practices for explainability, contextualization, data translation to GenAI, verification, and evaluation of AI outputs. These practices are necessary to enhance the quality of strategy work, and the results show that AI maturity enables natural ownership of GenAI strategizing and deep integration of AI into strategic routines and

product development. Recent adopters may require more support in building the foundations of a new way of strategizing, including emotional support, sensemaking, and practical exploration.

This study suggests that high-quality and creative outcomes produced in collaboration with generative AI require daily experimental learning and effort, but all informants believed the outcomes are worth the sociomaterial investment. Furthermore, the results suggest that adopting generative AI into strategic activities probably structures strategy work, enhances strategic reflection and ideation, and develops the firm's proprietary data and theory of the firm through discursive collaborative sensemaking. Therefore, this study recommends that all SMEs adopt generative AI in some form to improve the strategic agility and innovativeness of strategizing. The benefits of strategy tool-making depend on human governance: clear human accountability, reflective evaluation, context-sensitive design, and ethical oversight.

5.3 Limitations

This study aimed to develop contextual insights into human-GenAI strategizing in SMEs through qualitative interviews. The findings prioritize depth and meaning over statistical generalizability. Because the empirical material is collected from Finnish SMEs, the findings may reflect features specific to this setting, although the interviewees represent a range of company types, varying levels of AI maturity, and perspectives across industries. A broader representation of each context could yield more perspectives and strengthen the evidence base. Participants were primarily managers accompanied by two consultants to obtain more diverse perspectives, but a more diverse sampling could have yielded additional perspectives. Interviews may also emphasize successful episodes, or interviewees might remember things in biased ways. Therefore, the results should be taken as situated interpretations. A

limitation of this study concerns the risk of subjective interpretation of interview data, especially while translating it from Finnish to English. To mitigate interpretation risk related to translation, the interviews were analyzed in their original language, and the key quotations were translated carefully, revisiting the original interview recordings in case of ambiguous expressions. Due to the cross-sectional time horizon of the primary data collection, further conclusions about the evolution of strategic practices or performance outcomes cannot be drawn. Additionally, the results may not be applicable to larger companies. The case companies had relatively limited resources, and the strategizing environment in large companies may be significantly different and more complicated due to the need for coordination. The rapid development of generative AI also limits the study's novelty, as the technology is likely to offer significantly new benefits for strategy work in the near future.

5.4 Suggestions for future research

There are multiple future directions for studying human-GenAI strategizing. First, this study was limited to a snapshot of strategy-tool development, but future studies could provide a more detailed picture of the development phases of the sociomaterial tool-making process over a longer time period, and triangulate interviews with observations to examine enactment in practice. Second, teams comprising employees from various levels using GenAI in strategy work in SMEs could provide more insights about complementary competencies and the negotiation process of the value of AI insights. Third, the cases revealed a primarily augmentation-based approach to collective strategizing, and opportunities for automated scanning or other strategy applications could yield valuable insights. Fourth, future studies could develop quantitative measures of creativity-related practices and quality, perhaps within a cohort of companies in the same industry. Finally, although saturation was achieved, the study cohort was limited. Future studies with a larger cohort could provide more detailed insights about the sociomaterial nature of human-GenAI strategizing.

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Appendices

Appendix 1. Semi-structured interview guide.

Background information:

1. Can you describe your role in your company's strategy work and for how long have you worked in this role?
2. What do you think of generative AI generally?

Strategizing under uncertainty

1. Can you describe a recent strategy event in terms of what you and your team did and talked about?
2. How did you and your team make sense of the situation and decide how to proceed?
3. What kind of practices help your team to deal with uncertainty in strategizing?

Practices of human-AI collaboration

1. What role does AI currently play in your team's strategizing activities?
2. How do the material features of AI (ability to create charts, visualisations etc.) influence what gets discussed in meetings?
3. Can you recall an instance when AI directly changed the direction or flow of strategy discussion? If yes, what changed?
4. How does the presence of AI alter the balance between human insights and data-driven reasoning in your team?

Discursive and sensemaking practices

1. How does your team typically talk about and interpret AI-generated insights?
2. How do you and your colleagues make sense of uncertain or unexpected AI results?
3. How do disagreements or different interpretations of AI insights get resolved in the team?

4. Have you noticed particular ways people talk about the authority or reliability of AI during strategy sessions?

Explainability

1. How well do you feel you understand how the AI generates outputs?
2. When an AI result is difficult to explain, how do you and your team handle that opacity in practice?
3. In your experience, does the level of explainability affect how much you trust or rely on AI insights in strategizing?

Domain expertise and skills

1. what kind of expertise or skills do you think are needed to work effectively with AI in strategy work?
2. How do people with different backgrounds interpret AI outputs differently and how it affects strategy work?

Creativity and decision quality in strategizing

1. In your experience, how does AI influence creativity or the generation of novel ideas during strategy work?
2. Can you share an example where creative ideas emerged through interaction with AI?
3. How do you assess whether AI-supported strategic decisions are high-quality?
4. Has AI changed how your team defines what good strategizing is?

Appendix 2. List of interviewees.

	TITLE	Domain/ AI ex- perience	Interview length	Company in- dustry
Interviewee 1, Alpha	CEO, co-owner	15/5 years	1 h	Consults non- profits in digi- talization
Interviewee 2, Beta	CEO, co-owner	20/5 years	1 h	SaaS, consult- ing
Interviewee 3, Gamma	CEO, co-owner	10/1 years	1 h	Constructing
Interviewee 4, Delta	After-sales manager	15/1 years	54 min joint in- terview	Green technol- ogy
Interviewee 5, Delta	Chief Product Officer	4/1 years	54 min joint in- terview	Green technol- ogy
Interviewee 6, strategy con- sultant	consultant	30/5 years	54 min	Consults tech- nology compa- nies in growth
Interviewee 7, strategy con- sultant	consultant	20/5 years	57 min	Business and communica- tion consulting

Appendix 3. Approximate financial development of company Beta 2020-2024.

	31.12.2020	31.12.2021	31.12.2022	31.12.2023	31.12.2024
Turnover	1700	1400	1300	1500	2100
change (%)	7%	-17%	-7%	13%	40%
Net profit	400	150	80	120	180