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HUMANS IN THE LOOP: EXPLORING THE ROLE OF GENERATIVE AI ON JOB CRAFTING IN A TEAM ENVIRONMENT

TREO Paper

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Abstract

The easy accessibility and wide-ranging capabilities of Generative AI applications provide an opportunity for workers to utilize them to support their work in a multitude of ways. In particular, a promising domain of the use of Generative AI might be job crafting, a bottom-up problem-solving process that individuals engage in to redesign their work, improving their job conditions. As organizations predominantly rely on teams to structure work, it is important to examine how Generative AI can influence the job crafting process not just at an individual but also at the team level. In analyzing the latest developments in the human-AI collaboration, we examine the implications for job crafting. Our study extends and contributes to the scholarship of human-AI collaboration.

Keywords: Generative AI, Job crafting, Team dynamics.

1 Introduction

This paper explores the dynamic interplay between Generative AI (GenAI) applications and job crafting within team environments, extending the domain of human-AI collaboration to a more collective “Humans”-AI collaboration.

The term LLM (Large Language Models) represents a type of deep learning that takes text as an input (a “prompt”) and generates text in a probabilistic way, as an output. It shows a much higher scale (in technical terms: a higher number of parameters, trained with more data). LLMs now represent the basis for almost all major GenAI applications but their capabilities, limitations, and risks are not well understood.

Like any emerging digital technology, in this initial phase of the life cycle of GenAI, it is thus challenging to identify a use case that is both representative of its great potential and at the same time sufficiently defined within a context of use. In this paper, we show how job crafting can be one of these contexts: job crafting, especially in a team environment may constitute a prime application domain for GenAI.

In our study, we conceptualize a GenAI tool, such as ChatGPT, for its capabilities as a general-purpose team member rather than a specialized agent within a multi-agent workflow. This perspective is grounded in the current capabilities and generalist design of these tools, which are not custom-tailored to specific roles or specialties but rather designed to perform a wide range of tasks across various domains. Our approach aligns with the notion that GenAI tools, by virtue of their design, can serve as versatile and adaptive participants in collaborative efforts, capable of contributing across different contexts and requirements.

2 Generative AI and Job Crafting

Job crafting is “a proactive work behavior aimed at changing job characteristics, including increasing challenging demands, decreasing hindering demands, and increasing structural and social job resources” (Rudolph et al. 2017). The essence of job crafting lies in an individual's pursuit to improve their job conditions, be it relational, cognitive, or task-related (Rudolph et al., 2017; Zhang & Parker, 2019). This pursuit is inherently a problem-solving process, triggered by the desire to enhance one's work experience (Bruning et al., 2022). Job crafting has been broadly defined as “the changes to a job that workers make with the intention of improving the job for themselves. These changes can take structural (i.e., physical and procedural), social, and cognitive forms” (Bruning & Campion, 2018, p. 500), ensuring greater benefits for those who engage in job crafting (Zhang & Parker, 2019). In this sense, job crafting is based on the worker's problem-solving processes, which include problem recognition (i.e. the reasons for crafting), the search for solutions, and the analysis of alternatives to achieve motivation (Bruning et al., 2022). The integration of GenAI applications into the workplace presents a transformative opportunity for job crafting (Wrzesniewski & Dutton, 2001): GenAI applications emerge as powerful allies of workers willing to craft their jobs, supporting them in their problem-solving journey. Thus, job crafting presents a unique use case for examining the effects of human-AI collaboration, particularly when the AI involved is GenAI.

Considering the collective nature of work, we focus on team contexts as our unit of analysis. Within a team, members not only contribute suggestions and feedback but also influence the outcome of an individual's job crafting efforts. Here, GenAI applications take on a role akin to a team member, participating actively in the crafting process. In light of all these considerations, this study aims to answer the following research question: how does GenAI influence job crafting in a team?

2.1 The influence of Generative AI on job crafting in a team environment

Previous studies on human-AI collaboration have often focused on AI applications (You & Robert, 2018), that are organizationally chosen (top-down) and serve specific functions. Traditional AI-based tools come with predefined functions and purposes. They are not designed to adapt to each worker's unique needs or working style but are programmed for specific, predetermined tasks (Kozlowski & Ilgen, 2006). This aspect fundamentally alters team composition and dynamics, as human team members must adjust their interactions and work processes to accommodate these fixed-function technologies. However, GenAI represents a paradigm shift, being chosen by workers (bottom-up) due to its easy accessibility in terms of both affordability and skills for use. GenAI has the ability to integrate seamlessly into various aspects of job crafting, supporting workers in different ways.

In teams, the role of GenAI becomes even more pronounced. The collaborative nature of job crafting in team settings can be affected or improved by AI's ability to process and synthesize vast amounts of information, aiding in problem-solving and idea generation (Seeber et al., 2020). This collaboration can lead to a more dynamic and adaptive form of job crafting, where team members collectively navigate the complexities of their work environment, supported by GenAI applications' capabilities (Hollan et al., 2000). The integration of GenAI into job crafting processes presents a frontier for expanding the domain of human - AI collaboration.

3 Methodology

Our empirical study aims to understand the impact of GenAI applications in facilitating job crafting within team settings. We explore how team dynamics, technology, and human-AI interactions converge when GenAI is employed as a teammate in job-crafting endeavors. This approach allows us to examine the broader implications of GenAI in enhancing team performance and fostering a collaborative environment where both humans and AI contribute constructively. Our study utilized a mixed methods approach, combining semi-structured interviews and surveys as recommended by Creswell and Clark (2017). The research project involves the analysis of a large multinational company in the manufacturing sector. In particular, the following were conducted in chronological order i) interviews with two

Continuous Improvement Specialists, ii) a survey of workers, iii) interviews with workers. Each method contributes uniquely to a holistic understanding of the research topic, ensuring a comprehensive exploration. This integrative approach not only broadens the scope of inquiry but also enriches the depth of understanding of the phenomenon.

4 Conclusions

Our findings suggest that the exploration of GenAI applications from the perspective of job crafting has revealed significant insights into the problem-solving processes at work in organizational settings. GenAI's impact on these processes, particularly in the context of job crafting, underscores a notable shift in how workers approach and resolve workplace challenges. Crafters are often embedded within team environments, where their actions and decisions are influenced by and influence their colleagues.

Our preliminary results show that in teams, the job crafting process takes on a collaborative dimension: it starts with an internal trigger, but then takes on different forms and facets based on input from colleagues. These colleagues, as the data suggest, may be more or less experienced, friends or simply mentors. Depending on the type of relationship and rapport present between the workers, job crafting takes different forms. The potential impact of GenAI applications is important for the collaboration, which extends beyond human-human interaction, encompassing a human-AI dynamic. In summary, the integration of GenAI applications into work creation processes within team environments heralds a new era in work practices. Collaboration between humans and GenAI applications, not only facilitates individual tasks but also transforms the entire team's approach to problem-solving and work improvement. As we continue to explore the implications of this collaboration between humans and GenAI, it becomes increasingly clear that the future of work will be profoundly shaped.

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