Digital Work Redesign and Its Facilitating Effect on Work Performance: A Person-Task-Technology Fit Perspective

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Abstract

With the rapid development of the digital economy and digital technologies, enterprise digital transformation has evolved from an "optional" initiative for a handful of leading firms to a "mandatory" imperative for a growing number of organizations. However, many enterprises encounter challenges such as sluggish performance growth and insufficient sustainability throughout their digital transformation journeys. The mismatch among employees' digital competencies, digital technologies, and digital work demands—namely, the person-task-technology misfit—represents one of the primary root causes of these predicaments. Consequently, how employees can proactively modify the digital work characteristic environment to achieve person-task-technology fit and thereby enhance work performance has emerged as a timely and practically significant issue. Accordingly, this project proposes to adopt a comprehensive methodological approach integrating interviews, multi-source multi-time-point questionnaires, and diary surveys. Focusing on digital work as an emerging work practice, we will combine job crafting research with person-task-technology fit perspectives to pioneer the concept of digital work crafting and systematically investigate its facilitating mechanisms for work performance. Furthermore, from the vantage points of colleagues, leadership, and organizational structure, we will examine the moderating effects of colleague support for digital work crafting, digital leadership, and low organizational formalization on the relationship between employees' digital work crafting and their work performance. This research endeavor is expected to open new research frontiers for job crafting scholarship, advance employee digitalization research from self-management and proactive adaptation perspectives, and provide both theoretical foundations and practical guidance for employees seeking to proactively adapt to digital transformation and improve their work performance.

Full Text

Preamble

Digital Job Crafting and Its Positive Impact on Job Performance: An Individual-Task-Technology Fit Perspective

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Abstract: With the booming development of the digital economy and digital technology, enterprise digital transformation has shifted from an "optional choice" for select leading companies to a "mandatory requirement" for a broader range of enterprises. However, many organizations face challenges such as slow performance growth and insufficient transformation sustainability during their digital transformation journeys. A primary cause of these difficulties is the misalignment between employees' digital competencies, digital technologies, and digital job demands—referred to as individual-task-technology misfit. Consequently, understanding how employees can proactively modify their digital work environments to achieve individual-task-technology fit and thereby enhance job performance has become a question of both contemporary significance and practical relevance. This project integrates job crafting research with individual-task-technology fit theory to pioneer the concept of "digital job crafting" and systematically examine its mechanisms for promoting job performance. Additionally, from the perspectives of colleagues, leaders, and organizational structure, we investigate the moderating roles of colleague support for digital job crafting, digital leadership, and low organizational formalization in the relationship between digital job crafting and job performance. Employing a mixed-methods approach combining interviews, multi-source multi-wave surveys, and diary studies, this research aims to: (1) clarify the conceptualization and develop a valid measurement instrument for digital job crafting; (2) reveal the promotion mechanisms through which digital job crafting influences job performance from an individual-task-technology fit perspective; and (3) examine the boundary conditions at the colleague, leader, and organizational levels. This project is expected to open new research avenues for job crafting scholarship, advance employee digitalization research from a proactive adaptation and self-management perspective, and provide theoretical foundations and practical guidance for employees to actively adapt to digital transformation and improve job performance.

Keywords: digitalization, digital job crafting, individual-task-technology fit, job performance

1. Problem Statement

China is advancing irreversibly into the digital era, with the digital economy becoming a key driver of stable economic growth (China Digital Economy Development White Paper, 2021). The vigorous development of digital economy and technology has intensified market uncertainty and competitive pressures, compelling enterprises to undergo digital transformation to adapt to external environments and enhance competitive advantages (Trenerry, 2021; Qi & Xiao, 2020). Propelled by the combined forces of digital technology, market demands, and organizational development, digital transformation has emerged as a critical breakthrough for enterprise upgrading, with an increasing number of companies joining this movement. The "14th Five-Year National Informatization Plan" indicates that the proportion of enterprises with comprehensive digitalization in key business segments will increase from 48.3% in 2020 to 60%, while the cloud adoption rate for industrial equipment will rise from 13.1% to 30%.

Despite this inevitable trend, only 11% of enterprises have achieved significant transformation results. Many organizations struggle with slow performance growth, difficulty measuring transformation outcomes, and insufficient sustainability (China Enterprise Digital Transformation Index Study, 2021). Digital technology has fundamentally altered the nature of work, work methods, and business processes (Ernst et al., 2019; He et al., 2022). Work tasks now exhibit intelligent and data-driven characteristics; human-machine collaboration has become a new work modality; and remote and online work are becoming the norm. Employees' ability to adapt to digital work and digital work scenarios has become critical to successful digital transformation.

In the digital era, leveraging employee proactivity has become increasingly important (Zhang et al., 2021). Employees are not merely passive "recipients" of their work environment but active "shapers" who proactively modify their digital work environments to adapt. However, previous research has primarily focused on top-down digital transformation initiatives with limited employee participation, failing to fully harness employee proactivity. Moreover, during digital transformation, mismatches between employees' digital capabilities and digital job demands are widespread, with employees'digital skill development lagging behind technological advancement (Hubschmid-Vierheilig et al., 2020; Xie et al., 2021). This individual-task-technology misfit not only triggers negative emotional experiences, job insecurity, and performance declines (Arias-Pérez & Vélez-Jaramillo, 2021; Lingmont & Alexiou, 2020) but also traps many enterprises in situations of stagnant performance growth and unsustainable transformation.

The Individual-Task-Technology Fit Framework helps us understand these phenomena. This framework proposes that task characteristics, individual characteristics, and technology characteristics enhance individual-task-technology fit, which in turn influences technology adaptation and usage, ultimately affecting performance outcomes (Ammenwerth et al., 2006; Goodhue & Thompson,

1995). According to this framework, we can improve individual-task-technology fit—and consequently job performance—by modifying task, individual, and technology characteristics. Therefore, in the context of enterprise digital transformation, understanding how to help employees proactively adapt to digital transformation, achieve individual-task-technology fit, and enhance job performance represents a management question with both theoretical and practical significance.

Job crafting research offers insights for addressing these challenges. Job crafting refers to the process through which employees proactively change the task and relational boundaries of their jobs, either cognitively or behaviorally, to align their work with personal preferences (Wrzesniewski & Dutton, 2001). Research demonstrates that employees' proactive reshaping of their work environment from the bottom up is key to achieving alignment between individual preferences and job demands (Wrzesniewski & Dutton, 2001; Zhang & Parker, 2019). However, existing job crafting research primarily focuses on the relationship between employees' interests, motivations, and preferences and traditional job task requirements, neglecting the critical element of digital technology. This limitation prevents direct application to guiding employees in adapting to digital transformation and achieving individual-task-technology fit.

Digital technology usage has become a new key element of modern work environments, capable of enhancing employee efficiency and organizational performance, and serving as a core driver of enterprise development (Duan et al., 2019). Employees urgently need to correctly understand and utilize digital technologies to handle digital work, adapt to new production modes, business forms, and commercial models catalyzed by digital technology, and improve job performance and meaningfulness. Therefore, it is essential to incorporate digital technology as a crucial element into job crafting research and explore new, scientifically effective digital job crafting strategies to help employees actively adapt to digital transformation, achieve individual-task-technology fit, and enhance job performance.

In summary, this study, grounded in the context of enterprise digital transformation and integrating core ideas from the Individual-Task-Technology Fit Framework with job crafting research, pioneers the concept of "digital job crafting" and systematically examines its impact on job performance and underlying mechanisms. Specifically, this research will: (1) define digital job crafting as "the process through which individuals spontaneously make substantive or cognitive changes to digital work task characteristics, interpersonal interactions, and digital technology usage to align their preferences with digital technology use and digital job demands" ; (2) explore the promotion mechanisms of digital job crafting on job performance from an individual-task-technology fit perspective; and (3) reveal the moderating effects of digitally relevant organizational contexts—colleague support, leadership, and organizational characteristics—on the relationship between digital job crafting and job performance, thereby providing scientifically grounded theoretical and practical guidance for employees

to improve performance and actively adapt to digital transformation.

2.1 What is Job Crafting?

Although job crafting research is extensive, scholars have not yet reached a unified conceptual definition. Wrzesniewski and Dutton (2001) first formally proposed the concept, defining job crafting from a role perspective as bottom-up, substantive or cognitive changes that individuals make to the task and relational boundaries of their jobs to align work with personal preferences. This conceptualization includes three dimensions: task crafting (changing the number, scope, or methods of work tasks), relational crafting (changing the quality and quantity of interactions with others at work), and cognitive crafting (changing perceptions and value judgments about work).

Tims and Bakker (2010), drawing on the Job Demands-Resources model, defined job crafting from a resource perspective as "employee behaviors proactively initiated to change job demands and job resources to achieve or optimize personal or work goals." Tims et al. (2012) identified three primary forms: increasing job resources (structural and social), increasing challenging job demands, and reducing hindering job demands.

In recent years, researchers have attempted to integrate these perspectives to advance job crafting scholarship. Zhang and Parker (2019) proposed a three-level structure from an integrative perspective, categorizing job crafting into eight types based on direction (approach vs. avoidance), form (behavioral vs. cognitive), and content (job demands vs. job resources): approach resource crafting (behavioral), approach demand crafting (behavioral), approach resource crafting (cognitive), approach demand crafting (cognitive), avoidance resource crafting (behavioral), avoidance demand crafting (behavioral), avoidance resource crafting (cognitive), and avoidance demand crafting (cognitive). Other researchers have introduced regulatory focus theory into job crafting research (Lichtenthaler & Fischbach, 2019; Tian et al., 2020), integrating two regulatory orientations (promotion and prevention) with four crafting contents (cognitive, task, relational, and skill crafting) to create eight types of job crafting (Bindl et al., 2019): promotion-focused relational crafting, promotion-focused task crafting, promotion-focused skill crafting, promotion-focused cognitive crafting, prevention-focused relational crafting, prevention-focused task crafting, prevention-focused skill crafting, and prevention-focused cognitive crafting.

Despite these varying perspectives, job crafting exhibits three core characteristics: (1) it is self-driven, bottom-up behavior initiated proactively by employees (Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001); (2) it represents sustainable change (Bruning & Campion, 2018; Wrzesniewski & Dutton, 2001); and (3) its purpose is to achieve person-environment fit and enhance work meaning, motivation, well-being, and performance (Tims et al., 2013; Wrzesniewski & Dutton, 2001).

2.2 Effects and Mechanisms of Job Crafting

Reviewing job crafting research reveals that its impact on employees primarily manifests in work attitudes, work behaviors, and well-being. Regarding work attitudes, job crafting enhances job satisfaction, work engagement, and career calling while reducing burnout and turnover intentions. By increasing personal and job resources and decreasing hindering job demands, employees can better invest themselves in their work (e.g., Bakker & Oerlemans, 2019; Dubbelt et al., 2019; Tims et al., 2012). For instance, Dubbelt et al. (2019) found that job crafting promotes employee work engagement through enhanced person-job fit. Additionally, job crafting improves job satisfaction, reduces turnover intentions, and alleviates job burnout (e.g., Cheng & Yi, 2018; Llorente-Alonso & Topa, 2019).

In terms of work behaviors, job crafting improves job performance, innovative work behavior, and organizational citizenship behavior while reducing work withdrawal behavior. By increasing job resources or reducing hindering job demands, employees are better able to achieve work goals and enhance performance (e.g., Bakker et al., 2020; Shin et al., 2020; van Wingerden et al., 2017; Wang, 2020). The accumulation of personal and job resources and reduction of job demands enhance employees' psychological and emotional investment in their work, thereby improving performance (Tims et al., 2012). Furthermore, job crafting enhances work passion and person-environment fit, facilitating the generation of new ideas and methods that increase innovative work behavior. By expanding task boundaries and increasing challenging job demands, job crafting positively influences organizational citizenship behavior (Lin et al., 2017). However, when employees perceive job demands exceeding their expectations, their motivation weakens, leading to burnout and withdrawal behaviors (van Wingerden et al., 2017).

Regarding employee well-being, job crafting enhances perceived work meaning and subjective well-being. By aligning work more closely with personal preferences, job crafting increases work meaningfulness and well-being (e.g., Bruning & Campion, 2018; Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001; Lin, 2021). Additionally, job crafting boosts positive emotions, which in turn enhances subjective well-being (e.g., Harju et al., 2021; Shi et al., 2021). Specifically, task crafting further develops employees' capabilities, enabling self-actualization and increasing psychological well-being, while relational crafting builds high-quality colleague relationships that generate positive emotions and enhance subjective well-being.

2.3 Research Gaps and Future Directions

Despite extensive research on job crafting, specialized investigation of employee job crafting in digital work contexts remains lacking. The widespread application of digital technology in the workplace has transformed job demands, work methods, and work scenarios (Ernst et al., 2019). These changes require employ-

ees to correctly understand and utilize digital technologies to effectively handle digital work tasks and adapt to digital transformation (Ernst et al., 2019; Zhu et al., 2021). However, existing job crafting research primarily examines the relationship between employee preferences and traditional job tasks, inadequately addressing digital technology as a new work environment element. This limitation prevents direct application to guiding employees in effectively managing digital work and proactively adapting to digital transformation. Therefore, it is necessary to incorporate digital technology into job crafting research and explore new, scientifically effective digital job crafting strategies to help employees improve performance and actively adapt to digital transformation, thereby advancing job crafting scholarship.

Previous studies have examined job crafting' s positive effects through person-job fit, resource enhancement, and need satisfaction perspectives (e.g., Dubbelt et al., 2019; Tims et al., 2012). However, after introducing digital technology as a new work environment element, job crafting may operate through novel mechanisms. For example, in digital work contexts, job crafting may enhance job performance by helping employees achieve fit between themselves and digital job demands and digital technology use. Given the importance of employees proactively adapting to digital work tasks and methods, it is essential to clarify the new mechanisms through which job crafting influences job performance in digital contexts, enabling organizations and employees to better understand and manage these effects.

Moreover, prior research has primarily focused on how job crafting functions in traditional work contexts. However, after incorporating digital technology, factors related to the digital work context may influence the effectiveness of job crafting. Specifically, colleagues' and leaders' perspectives on digital work, as well as the organizational digital work environment, may affect how digital job crafting operates. Colleagues and leaders, as frequent interaction partners, can provide resources that support employees' digital job crafting efforts, potentially strengthening its positive effects. Organizational characteristics, particularly whether the organization supports bottom-up digital job crafting, may also influence its effectiveness. Therefore, it is necessary to examine how digital work contexts—from colleagues, leaders, and organizational features—affect digital job crafting and its outcomes, helping organizations create supportive environments that facilitate effective digital job crafting.

3. Research Status of the Individual-Task-Technology Fit Framework

3.1 Core Content of Task-Technology Fit Theory

Task-Technology Fit Theory, first proposed by Goodhue and Thompson in 1995, posits that task characteristics, individual characteristics, and technology characteristics—along with the fit between task and technology characteristics and between technology and individual characteristics—enhance task-technology fit,

which in turn increases actual technology use and use performance (Goodhue & Thompson, 1995). The theory comprises four elements: technology characteristics (functions provided by technology), task characteristics (the nature of tasks individuals need to accomplish using technology, including interdependence and complexity), individual characteristics (personal ability to manipulate technology, including training, experience, and motivation), and task-technology fit (the degree to which technology functionality matches personal needs during task execution). Goodhue and Thompson (1995) noted that "task-technology fit" essentially means "individual-task-technology fit" —the degree of consistency among task demands, individual capabilities, and technology functionality— though they retained the more concise "task-technology fit" terminology for simplicity.

The theory' s core proposition is that the interaction among task, technology, and individual characteristics enhances task-technology fit, thereby improving performance. This interaction primarily focuses on task-technology fit and individual-technology fit, but does not explicitly consider individual-task fit. Subsequent researchers have identified this limitation and proposed that individual-task fit also plays a crucial role in technology use and performance (e.g., Ammenwerth et al., 2006; Dishaw & Strong, 1999). For example, a technology may go unused not because of its inherent limitations, but because nurses lack sufficient motivation to document complete care processes.

3.2 Core Content of the Individual-Task-Technology Fit Framework

Addressing the limitations of Task-Technology Fit Theory, Ammenwerth et al. (2006) refined the theory and proposed the "Fit between Individuals, Task and Technology Framework." This framework suggests that the degree of fit among individual characteristics, technology characteristics, and task characteristics influences technology adoption and ultimately affects technology use performance (Ammenwerth et al., 2006). The framework specifies that individual-task-technology fit comprises three components: individual-task fit, individual-technology fit, and technology-task fit. The degree of fit depends on individual characteristics (technology-related knowledge, motivation and interest in task completion, flexibility and openness to new work methods), technology characteristics (stability and usability of technology tools, technology functionality), and task characteristics (task interdependence and complexity). For example, individuals must possess sufficient motivation and knowledge to perform specific tasks; technology must provide adequate functionality and performance to support given tasks; and individuals must receive adequate training to fully utilize the provided technology. Furthermore, the framework suggests that we can directly influence these characteristics to improve individual-task-technology fit, such as updating software to enhance both technology-task and individual-technology fit.

3.3 Applicability Analysis of the Individual-Task-Technology Fit Framework

During digital transformation, mismatches between employees' digital capabilities and digital job demands are common, with employees' digital skill development failing to keep pace with technological advancement (Hubschmid-Vierheilig et al., 2020; Xie et al., 2021). This individual-task-technology misfit traps many enterprises in situations of stagnant performance growth and unsustainable transformation. Therefore, helping employees achieve individual-task-technology fit to enhance job performance and adapt to digital transformation has become a critical issue.

The Individual-Task-Technology Fit Framework offers a solution. According to the framework, we can improve individual-task-technology fit—and consequently job performance—by modifying task characteristics, individual characteristics, and technology characteristics (Ammenwerth et al., 2006). Integrating this framework with job crafting research, this study proposes that individuals can enhance their fit with digital work tasks and digital technologies by altering digital work task characteristics, individual characteristics, and digital technology characteristics, thereby improving job performance and facilitating enterprise digital transformation. This study further proposes that digital job crafting enhances job performance by promoting individual-task-technology fit.

4. Research Proposal

This study, grounded in the digital era and building upon job crafting research, introduces the Individual-Task-Technology Fit Framework to propose the concept of "digital job crafting" and systematically construct a theoretical model of its promotion mechanisms on job performance. The specific objectives are: (1) to clarify the conceptualization of digital job crafting and develop a scientifically valid measurement instrument; (2) to systematically reveal the influence mechanisms and promotion pathways of digital job crafting on job performance from an individual-task-technology fit perspective; and (3) to examine the moderating effects of colleague support for digital job crafting, digital leadership, and organizational formalization on the digital job crafting-job performance relationship.

4.1 Study 1: Conceptualization and Measurement of Digital Job Crafting

Study 1 will propose the concept of "digital job crafting"by integrating core ideas from the Individual-Task-Technology Fit Framework with existing job crafting research. Digital work is a broad concept encompassing various work practices centered on digital technology (Davison & Ou, 2017). This study defines digital work as "work composed of new work nature, methods, and relationships catalyzed by digital technology," such as using cloud storage for work content, establishing shared databases for products, software development, and platform

maintenance. Digital job crafting represents employees' crafting of "digital work." Specifically, digital job crafting is defined as the process through which individuals spontaneously make substantive or cognitive changes to digital work task characteristics, interpersonal interactions, and digital technology usage to align their preferences with digital technology use and digital job demands. This proactive, bottom-up behavior helps employees better adapt to challenges posed by digital technology. The purpose of digital job crafting is to achieve fit among individual preferences, digital technology use, and digital job demands, thereby enhancing work meaningfulness, job performance, and proactive adaptation to digital transformation. This study will conduct in-depth exploration of digital job crafting' s connotation and extension and develop a scientifically valid measurement tool.

4.1.1 Dimensional Structure of Digital Job Crafting Based on the Individual-Task-Technology Fit Framework (Ammenwerth et al., 2006), scientific management of digital work characteristics, individual characteristics, and digital technology characteristics can enhance fit among these three elements. Integrating this framework with job crafting research, this study proposes that digital job crafting comprises four dimensions: digital task crafting, relational crafting, cognitive crafting, and digital technology use crafting.

First, **digital task crafting** refers to individuals changing the number, type, scope, or completion methods of digital work tasks. Digital work tasks are tasks based on digital technology (Davison & Ou, 2017). Employees complete digital work by performing a series of digital tasks. As digital technology catalyzes changes in work nature, methods, and scope (Trenerry, 2021), employees must adjust traditional work methods and processes and redefine digital work boundaries to effectively handle digital tasks and adapt to digital transformation. Employees can achieve digital task crafting by altering the number, type, scope, or completion methods of digital tasks to better align their interests and motivations with digital job demands. For example, employees may adopt human-machine interaction methods to complete digital tasks or integrate human-machine collaboration into business processes to meet digital job requirements. Through digital task crafting, employees can achieve fit among digital job demands, digital technology use, and personal preferences, thereby completing digital tasks more effectively and enhancing work meaningfulness and performance.

Second, **relational crafting** involves changing the quantity and quality of interpersonal interactions to gain support for digital technology use or reduce interference from others. In enterprise digital transformation contexts, employees can establish connections with others to provide mutual digital technology support or reduce interference, helping each other adopt appropriate digital technologies to handle digital tasks and address challenges from rapid technological development. Specifically, employees can increase interaction frequency to build and maintain high-quality relationships. High-quality colleague relationships

facilitate exchange of digital technology use experiences and mutual support, helping each other proactively adapt to digital transformation. For instance, when unfamiliar with required digital technologies, employees can consult experienced colleagues or request technical support. Additionally, employees can reduce interaction frequency to minimize interference from others during digital technology use. For example, when colleagues hold unrealistic expectations about the digital support one can provide, reducing contact may be beneficial. Through relational crafting, employees promote communication about digital technology use, provide mutual support, or reduce interference to achieve fit among digital technology use, digital job demands, and personal preferences, which is crucial for completing digital work effectively, improving performance, and adapting to digital transformation.

Third, **cognitive crafting** refers to changing perceptions of digital technology and its relationship with digital job demands and personal preferences. Digital transformation represents not only a technological revolution but also a cognitive and mindset revolution. Employees' attitudes toward digital technology influence their technology use and job performance. Therefore, how employees perceive digital technology and its workplace application is critical for proactive adaptation to digital transformation. Drawing from job crafting research on cognitive crafting, changing perceptions and value judgments about digital technology and its relationship with digital job demands and personal preferences can enhance positive attitudes toward digital technology and fundamentally alter how employees value technology in meeting their preferences and job demands, thereby promoting fit among digital technology, job demands, and preferences. Compared to other forms of digital job crafting, cognitive crafting' s advantage lies in its potential to enhance fit even without changes to digital tasks, relationships, or technology use, thus facilitating adaptation to digital transformation.

Finally, **digital technology use crafting** involves selecting appropriate digital technologies, optimizing digital technology use plans, and enhancing digital skills to efficiently complete digital work. As digital technology permeates all aspects of work, employees need the ability to search for, discover, and apply new digital technologies to their work (Khin & Ho, 2020). Simultaneously, employees must deepen their application of existing technologies through continuous refinement and modification to better meet digital job demands. Thus, learning and optimizing digital technology has become a new job requirement in the digital era. Digital technology makes organizations flatter and more flexible, granting individuals greater autonomy and decision-making authority in technology use (Zhang et al., 2021). Employees can select digital technologies that match digital task characteristics and personal preferences or optimize technology use plans to efficiently complete digital work.

Specifically, based on different combinations of digital tasks, employees can choose technologies they are proficient in that suit task requirements, or optimize existing technology use plans to efficiently complete digital work. Addition-

ally, employees can enhance digital skills through training to achieve fit among digital technology, personal digital competencies, and job demands, ultimately completing digital work efficiently. For example, employees may seek training in digital skills to improve their ability to apply digital technologies to their work. Through digital technology use crafting, employees demonstrate agency in technology use and facilitate fit among digital technology use, personal preferences, and digital job demands, thereby improving job performance.

In summary, the four dimensions of digital job crafting revolve around the relationships among four elements: digital technology use, personal preferences, digital job tasks, and interpersonal interactions in digital work. Digital task crafting involves changing digital work tasks; digital relational crafting involves changing relationships with others in digital work; digital cognitive crafting involves changing perceptions of digital technology and its relationship with personal preferences and digital tasks; and digital technology crafting involves changing the relationship between digital technology and personal preferences and digital job demands.

4.1.2 Connection and Difference Between Digital Job Crafting and Job Crafting Digital job crafting is a new concept developed from job crafting research. It represents an upgraded version of job crafting designed to help employees achieve individual-task-technology fit, improve job performance, and proactively adapt to digital transformation. Both constructs involve proactive, bottom-up behaviors initiated by individuals to meet specific needs, and both enhance work meaningfulness, job performance, and work engagement. However, clear distinctions exist between them.

In the digital transformation era, digital technology has been widely introduced into work, significantly impacting job content, work nature, and labor models (Trenerry, 2021). Employees must adjust their definitions of digital work boundaries and their perceptions of digital work roles to proactively adapt to digital transformation. Traditional job crafting essentially involves changing and reshaping the relationship between individual preferences and work, neglecting digital technology as a new contextual element and thus limiting its direct applicability to guiding employees in adapting to digital transformation and achieving individual-task-technology fit. In contrast, digital job crafting fully incorporates digital technology as a new work environment element, fundamentally representing changes and reshaping of the relationships among four elements: individual preferences, digital technology use, digital job demands, and interpersonal interactions in digital work.

Specifically, differences manifest in two aspects. First, **crafting purposes differ**: job crafting aims to achieve fit between individual preferences and work (Wrzesniewski & Dutton, 2001), whereas digital job crafting aims to achieve fit among individual preferences, digital technology use, digital job demands, and interpersonal interactions to meet employees' needs for proactively adapting to digital transformation. Second, **crafting contents and methods differ**: the

specific contents of relational, digital task, and cognitive dimensions in digital job crafting differ from those in traditional job crafting. Moreover, digital job crafting adds the dimension of digital technology use crafting.

4.2 Study 2: Promotion Mechanism of Digital Job Crafting on Job Performance from an Individual-Task-Technology Fit Perspective

The Individual-Task-Technology Fit Framework proposes that individual characteristics, task characteristics, technology characteristics, and their interrelationships influence individual-task-technology fit, which enhances technology use and ultimately affects performance (Ammenwerth et al., 2006; Goodhue & Thompson, 1995). Based on this framework and the conceptualization of digital job crafting, employees can achieve individual-task-technology fit and enhance job performance by altering digital work task characteristics and digital technology use through digital job crafting.

Digital job crafting influences individual-task-technology fit in three specific ways. First, **individual-task fit** refers to the alignment between employees' digital capabilities, digital literacy, and personal preferences with digital job demands. Different types of digital tasks require varying levels of digital technology, work methods, and coordination. Similarly, employees possess different digital capabilities, digital literacy, and work method preferences (Trenerry, 2021). According to the Individual-Task-Technology Fit Framework (Ammenwerth et al., 2006), digital job crafting promotes individual-task fit through four pathways: (1) digital task crafting enhances fit between employee needs, abilities, and digital job demands by redesigning digital work content or changing work methods; (2) relational crafting builds or maintains high-quality colleague relationships that provide digital technology support, helping employees cope with high digital job demands and improving fit between capabilities, motivation, and job demands; (3) cognitive crafting enhances positive perceptions of digital technology and motivation to use it, increasing perceived fit between digital job demands and digital capabilities; and (4) digital technology use crafting selects appropriate technologies, optimizes use plans, or enhances digital skills and literacy to meet digital job demands, thereby improving individual-task fit.

Second, **individual-technology fit** refers to the alignment between employees' digital capabilities, digital literacy, interests, and motivations with digital technology. Task-Technology Fit Theory and the Individual-Task-Technology Fit Framework emphasize the importance of matching technology functionality with individual needs, noting that individual and technology characteristics influence individual-technology fit (Ammenwerth et al., 2006; Goodhue & Thompson, 1995; Yu & Yu, 2010). We propose that digital job crafting changes individual characteristics, digital technology characteristics, and their relationships to promote fit between personal needs, interests, and digital technology. Specifically, digital technology use crafting selects appropriate technologies, optimizes use plans, or enhances digital skills to improve technology-preference fit. Relational crafting provides colleague support for digital technology use, help-

ing employees select preferred technologies to complete digital tasks. Cognitive crafting changes perceptions and value judgments about digital technology and its relationship with digital work and personal preferences, fundamentally altering how employees value technology in meeting their preferences and thereby promoting individual-technology fit.

Third, **task-technology fit** refers to the alignment between digital job demands and digital technology. Research indicates that task and technology characteristics affect task-technology fit (Ammenwerth et al., 2006; Goodhue & Thompson, 1995; Wu & Chen, 2016). Different digital tasks require different digital technologies, and technologies vary in their support for completing digital tasks. Digital job crafting changes digital job demands, digital technology characteristics, and their relationships to promote task-technology fit. Specifically, digital technology use crafting selects appropriate technologies or optimizes use plans to meet digital job demands, improving task-technology fit. Relational crafting provides colleague support that helps employees select and use technologies matching digital job demands. Cognitive crafting changes perceptions and value judgments about the relationship between digital technology and digital job demands, increasing employees' motivation to adopt appropriate technologies for digital tasks and thereby promoting task-technology fit.

Moreover, according to the Individual-Task-Technology Fit Framework (Ammenwerth et al., 2006), individual-task-technology fit promotes technology use and ultimately affects performance. We therefore infer that individual-task-technology fit enhances job performance. When individual preferences, digital technology use, and digital job demands align, employees can not only use digital technologies to complete digital tasks (task performance) but also change work processes or introduce useful new ideas through technology use (digital innovation performance). Additionally, flexibly changing the number, type, scope, or completion methods of digital tasks helps employees adapt to evolving digital job demands, thereby improving adaptive performance. We therefore propose:

Hypothesis 1: Digital job crafting enhances job performance by promoting individual-task-technology fit.

4.3 Study 3: Moderating Effects of Organizational Context on the Digital Job Crafting-Job Performance Relationship

Although digital job crafting is a bottom-up proactive behavior, the digital work tasks employees craft are nested within organizational contexts. Digitally relevant organizational contexts (colleagues, leaders, and organizational characteristics) may influence the effectiveness of digital job crafting. This study proposes that colleague support for digital job crafting, digital leadership, and organizational formalization strengthen the positive effects of digital job crafting on job performance through individual-task-technology fit.

Colleague support for digital job crafting includes emotional and instrumental support, such as providing information and feedback about digital tasks,

offering digital technology support, or encouraging digital job crafting. **Digital leadership** refers to leaders' ability to create a clear and meaningful vision for the digitalization process and execute strategies to achieve it (Larjovuori et al., 2016), representing an important job resource for employees (Zeike et al., 2019). Digital job crafting, as a proactive coping strategy for adapting to digital work, also constitutes an important individual resource.

The resource gain perspective proposes that one valuable resource can strengthen the positive effects of another valuable resource (Friedman & Greenhaus, 2000; Greenhaus et al., 2012). Accordingly, we infer that colleague support and digital leadership, as important job resources, strengthen the positive effects of digital job crafting. When employees receive high levels of support from leaders and colleagues, digital job crafting is more likely to achieve individual-task-technology fit and enhance job performance. Furthermore, colleague and leader support generates higher positive emotions during digital job crafting. Positive emotions serve as important personal resources that can indirectly increase cognitive and behavioral resources by enhancing motivation (Bindl et al., 2012). Based on the resource gain perspective, positive emotions and associated resources strengthen the positive relationship between digital job crafting and individual-task-technology fit, thereby improving job performance.

Researchers note that organizational structure, as an important contextual factor, influences the effectiveness of employee work behaviors (Segarra-Ciprés et al., 2019). As a proactive work behavior, digital job crafting' s effectiveness may also be influenced by organizational structure. This study focuses on **organizational formalization**—the degree to which rules, job descriptions, procedures, and communications are formalized or written (Desphande & Zaltman, 1982), emphasizing that all employees should act according to specific rules, procedures, and instructions.

Research indicates that when individual behaviors align with organizational requirements, the positive effects of those behaviors are strengthened (Bhave et al., 2010). In low formalization organizations, employees receive messages encouraging and supporting bottom-up proactive behaviors. This reduces concerns about organizational support for digital job crafting and enhances perceived autonomy in crafting. Therefore, in low formalization contexts, digital job crafting aligns with organizational expectations, strengthening its positive effect on individual-task-technology fit. Additionally, low formalization organizations provide emotional and instrumental support for proactive behaviors, representing important job resources that, according to the resource gain perspective (Greenhaus et al., 2012), strengthen the positive relationship between digital job crafting and individual-task-technology fit, thereby enhancing job performance.

Conversely, in high formalization organizations, employees must follow established regulations and supervisor instructions (Eva et al., 2017), leading them to perceive that the organization does not support bottom-up proactive behaviors.

This perceived misalignment between digital job crafting and organizational requirements weakens the level of individual-task-technology fit experienced, thereby reducing job performance. When employee behavior (digital job crafting) conflicts with organizational requirements (high formalization), employees may encounter obstacles from other organizational members during crafting, weakening its positive effects. We therefore propose:

Hypothesis 2a: Colleague support for digital job crafting moderates the mediating effect of individual-task-technology fit on the relationship between digital job crafting and job performance, such that the positive indirect effect is stronger when colleague support is high.

Hypothesis 2b: Digital leadership moderates the mediating effect of individual-task-technology fit on the relationship between digital job crafting and job performance, such that the positive indirect effect is stronger when digital leadership is high.

Hypothesis 2c: Organizational formalization moderates the mediating effect of individual-task-technology fit on the relationship between digital job crafting and job performance, such that the positive indirect effect is stronger when organizational formalization is low.

5. Theoretical Construction and Innovation

Based on the Individual-Task-Technology Fit Framework, this study incorporates digital technology into job crafting research to pioneer the concept of "digital job crafting" and systematically explores how employees can enhance job performance through digital job crafting via the pathway of individual-task-technology fit in enterprise digital transformation contexts. Additionally, colleague, leader, and organizational characteristics serve as important boundary conditions influencing the effectiveness of digital job crafting. Integrating these three studies, this project constructs a theoretical model of digital job crafting' s promotion mechanisms on job performance (see [Figure 1: see original paper]).

Figure 1. Theoretical Model of Digital Job Crafting' s Promotion Mechanisms on Job Performance

This research model offers three key innovations. First, it clarifies the conceptualization and dimensions of digital job crafting. In the digital transformation era, the nature and essence of work have undergone significant changes. Employees must adapt to new production modes, digital businesses, and commercial models catalyzed by digital technology (Ernst et al., 2019; He et al., 2022). Digital technology use enhances employee efficiency and facilitates enterprise digital transformation, becoming a new key element of modern work environments (Duan et al., 2019). However, existing job crafting research focuses on the relationship between personal preferences and traditional job demands, neglecting digital technology as an important contextual element and failing to directly guide employees in improving digital work performance and proactively adapt-

ing to digital transformation. This study defines digital job crafting as "the process through which individuals spontaneously make substantive or cognitive changes to digital work task characteristics, interpersonal interactions, and digital technology usage to align their preferences with digital technology use and digital job demands," using mixed methods to conceptualize digital job crafting across four dimensions: digital task crafting, relational crafting, cognitive crafting, and digital technology use crafting.

Second, the model constructs a path model of digital job crafting' s positive influence on job performance from an individual-task-technology fit perspective. Grounded in the Individual-Task-Technology Fit Framework, the model analyzes the role of individual-task-technology fit in the relationship between digital job crafting and job performance. The framework proposes that individual characteristics, task characteristics, technology characteristics, and their interrelationships influence individual-task-technology fit, which enhances technology use and ultimately affects performance (Ammenwerth et al., 2006; Goodhue & Thompson, 1995). Digital job crafting involves spontaneous changes to digital work task characteristics, interpersonal interactions, and digital technology usage to achieve fit among personal preferences, digital job demands, and digital technology use. Accordingly, digital job crafting can modify digital work task characteristics and digital technology use to achieve individual-task-technology fit and enhance job performance.

Third, the model reveals the role of digitally relevant organizational contexts—colleagues, leaders, and organizational structure—in the effectiveness of digital job crafting. Colleague support for digital job crafting, digital leadership, and low organizational formalization represent important job resources for employees. According to the resource gain perspective (Greenhaus et al., 2012), these resources can strengthen the positive effects of digital job crafting on individual-task-technology fit, thereby enhancing job performance.

The expected findings of this study carry significant theoretical implications. First, it advances employee digitalization research from a proactive adaptation and self-management perspective. Most existing employee digitalization research builds on top-down, technology-centered theories (e.g., Technology Acceptance Model, Unified Theory of Acceptance and Use of Technology), treating employees as passive "recipients" of their work environment and focusing primarily on technology acceptance and use issues (Solberg et al., 2020). In reality, employees are not only "recipients" but also active "shapers" of their work environment who proactively modify themselves and their digital work environments to adapt to digitalization. This study pioneers the concept of digital job crafting and systematically analyzes its promotion mechanisms on job performance, promising to advance employee digitalization research from a proactive adaptation and self-management perspective.

Second, by fully incorporating digital technology as a new work environment element, this study opens new research themes for job crafting scholarship and deepens job crafting research. Digital technology use enhances employee effi-

ciency and facilitates enterprise digital transformation (Duan et al., 2019). In contexts of new scenarios, demands, and tasks catalyzed by digital technology, employees must adjust their definitions of digital work boundaries and perceptions of digital work roles. However, existing job crafting research examines the relationship between personal preferences and job demands while neglecting digital technology use, failing to directly guide employees in improving digital work performance and proactively adapting to digital transformation. This study incorporates digital technology into job crafting research, pioneers the concept of digital job crafting, and systematically constructs a theoretical model of its promotion mechanisms on job performance from an individual-task-technology fit perspective. This not only opens new research themes for job crafting scholarship but also provides a more comprehensive and systematic understanding of digital job crafting' s effects.

Third, the theoretical model provides guidance for employees to proactively adapt to digital transformation and capture digital dividends. This project not only examines the internal mechanisms linking digital job crafting to job performance but also thoroughly investigates the moderating effects of organizational contexts at multiple levels—colleagues, leaders, and organization. The resulting theoretical model is both systematic and in-depth, providing foundational support and practical guidance for employees to improve performance and proactively adapt to enterprise digital transformation.

Note: Figure translations are in progress. See original paper for figures.