

# Facilitating or Hindering? The Impact of Employee Perceptions of Digital Technology on Digital Creativity

-- From The Perspective of Job Crafting

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**Abstract:** As an emerging employee creativity under the revolutionary breakthrough of digital technology (DT), the formation of digital creativity not only requires organizations to provide DT to employees, but also depends on their own perception of DT. Due to DT puts heavy pressure on the career development of employees, some evidence suggests that they may have different perceptions towards the DT. However, research on consequences of employee DT perceptions has mostly neglected to distinguish them. Drawing on transactional theory of stress and Kurt Lewin's field theory, we develop a novel model explaining how differentiated state of DT perception affects employees' digital creativity. Through a multi-wave, multi-source survey of 451 leader-employee dyads, our study unveil that employee DT opportunity perception positively affects digital creativity, and employee DT threat perception negatively affects digital creativity; promotion-oriented job crafting plays a partially mediating role in the relationship between employee DT opportunity perception and digital creativity, and Prevention-oriented job crafting plays a partially mediating role in the relationship between employee DT threat perception and digital creativity; digital technology self-efficacy plays a moderating role in this process mechanism. The findings deepen employees' understanding of digital technology, and provides insights to business innovation.

**Keywords:** Digital Technology Perception; Job Crafting; Digital Technology Self-efficacy; Digital Creativity.

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## 1. Introduction

The digital economy is reshaping the global economic landscape, providing strong support for cultivating new productive forces and promoting high-quality development. Companies that intend to capitalize on this digital wave must accelerate their deep integration with digital technology (DT), tap into their internal potential, and proactively engage in innovation. Employees, who are the actual executors of novel ideas and practical solutions using DT, such as AI, robots, and big data analytics, etc., their digital creativity will soon become a key resource element for companies to achieve leapfrogging and acquire core competitiveness [1]. Therefore, exploring how to stimulate individual creative potential and improve employees' digital creativity has become an issue of widespread concern in both theory and practice. At present, the majority of academic research on the antecedents of digital creativity has been conducted at the level of organizational behavior, focusing on factors such as shared team climate, digital organizational environment, and transformational IT leadership [2, 3], [4]. In contrast, studies at the level of individual behavior have only explored the effects of employees' ambidextrous learning abilities and digital technological knowledge on digital creativity [1] providing no explanations of the internal mechanism driving digital creativity from the perspective of "technological perception". In reality, the formation of digital creativity, which refers to various forms of DT-driven creativity, requires employees to be intrinsically motivated to persist in innovation. If we ignore employee DT perception (i.e., employees' views on how DT can affect their future career development) [5] and rely solely on the organization to instill DT extrinsically, this approach will not generate the intrinsic motivation required to sustain digital activities, and hence cause difficulties in ensuring employees' creative DT use [6].

Therefore, examining the effects and processes of employee DT perception on digital creativity holds great significance for further elucidating the formative mechanism of digital creativity.

Notably, previous research on the impact of DT perception at the employee level has yielded controversial results. Some researchers have argued that DT perception plays a positive role in motivating employees to adopt service innovation behaviors [7], enhance creativity [8], and increase career exploration behaviors [9]. Conversely, other researchers have noted that DT perception can lead to negative reactions, such as job burnout [10], increased turnover intention [5], and reduced service performance [11]. This divergence in viewpoints stems mainly from most studies focusing on a single aspect of DT perception, without a clear division of different dimensions. The disruptive changes DT brings are unlike those of previous technological revolutions and can cause immense uncertainty in employees regarding their career prospects. For example, DT can reinforce and complement employees' strengths, creating approximately 90 million new job roles requiring deeper collaboration among humans, machines, and algorithms [5]. On the other hand, DT can threaten employees' status and value in organizations, with an estimated 278 million workers in China expected to be replaced by artificial intelligence (AI) by 2049 [12]. Therefore, the introduction of DT in organizations has become a potential source of work stress for employees [13]. An analysis of the transactional theory of stress suggests that employees will evaluate a given stressor as a challenge or a threat [14], which will create two diametrically opposed states of DT perception: opportunity perception and threat perception [15] [16]. DT opportunity perception implies that employees value the opportunities that DT offers for their career development, whereas DT threat perception indicates that employees consider DT will threaten their career

development. Thus, do the different states of DT perception among employees facilitate or hinder their digital creativity? What are the underlying mechanisms and boundary conditions? Previous studies have not provided clear theoretical explanations for these questions.

According to the transactional theory of stress, the interaction between individuals and stressful environments mainly involves three processes: appraisal, coping, and outcome. The appraisal of stressor can affect an individual's outcome by influencing their coping style [17]. Existing research suggests that employee perceptions of DT can indirectly influence the work outcomes by eliciting the motivation for job crafting [18]. Therefore, as an employee-centered, bottom-up job redesigning behavior [19], job crafting may serve as an important link connecting employee perceptions of DT with individual digital creativity. The theory further posits that even in the same stressful situation, individuals with different appraisals of the stressor will adopt different coping strategies, which in turn will lead to varying outcome [14]. Consequently, employees who differ in how they perceive DT will adopt different approaches to job crafting, which may in turn lead to different impact on digital creativity. Specifically, when employees make a challenge appraisal (i.e., when they perceive that DT can bring them rewards and growth opportunities), they will be more inclined to be proactive and problem-focused in their response, which motivates them to use promotion-oriented job crafting to actively learn and acquire resources related to DT. This will drive the generation of new ideas and methods, thereby allowing employees to exhibit greater digital creativity. When employees make threat appraisals, they are more willing to respond through an emotion-focused and conservative approach, such as through prevention-oriented job crafting to avoid difficulties and losses. This state of passive avoidance will lead to a decrease in employees' digital creativity. Thus, based on the above, employee DT opportunity and threat perception may have differential effects on employee digital creativity through the mediating roles of promotion- and prevention-oriented job crafting, respectively.

To explore the boundaries of the effect of employee DT perception on job crafting, we also introduced digital technology self-efficacy as a moderating variable into the model. Digital technology self-efficacy reflects employees' assessment of their own ability to use DT and is an important individual trait that has emerged in the digital age [20]. The Field theory developed by Kurt Lewin [21] suggests that an individual's behavior (B) is influenced by the interaction of the person (P) and environment (E), in which the person (P) indicates individual characteristics, and the external environment (E) must be perceived by the individual before the environment stimuli can influence behavioral performance [22]. Given this, DT opportunity and threat perception, which represent the different ways employees perceive external stressful DT-related situations, may have different effects on employees' promotion- and prevention-oriented job crafting owing to differences in their individual characteristics. Higher digital technology self-efficacy provides employees with sufficient psychological resources and boosts their confidence when using DT, which not only enhances the motivation of employees with DT opportunity perception to actively improve their work but also helps to reduce the prevention-oriented measures employees with DT threat perception adopt when encountering DT. Therefore, digital technology self-efficacy may moderate the effect of

employee DT perception on job crafting, and this moderating effect will be further reflected in the mediating effect, thereby constituting a boundary condition for the effect of employee DT perception on digital creativity through job crafting.

In summary, based on the transactional theory of stress and Kurt Lewin's field theory, this study focused on the mechanisms by which employee DT opportunity and threat perception affect employee digital creativity, introduced promotion- and prevention-oriented job crafting as mediating variables, and emphasized the moderating role of digital technology self-efficacy in this process. Findings will help companies guide their employees towards an accurate understanding of DT (e.g., AI and big data) and provide new ideas for improving employee digital creativity in management practice.

## 2. Theoretical Foundation and Research Hypotheses

### 2.1. Employee DT perception and digital creativity

Digital creativity is a special form of creativity elicited by DT [23], in which individuals form innovative ideas with the help of DT and present them in novel ways. This creativity stems from an individual's creative use of DT, while its closely related to how employees perceive DT in the workplace [24]. DT perception refers to employees' cognitive state regarding how DT can affect their career prospects [5]. Based on the transactional theory of stress, Xu et al. [15] classified DT perception into two dimensions: DT opportunity perception and DT threat perception. These two states of perception may have different effects on the formation of employee digital creativity.

DT opportunity perception refers to an individual making a challenge appraisal regarding the pressures brought about by a company's adoption of DT. At this point, the employee will believe that the DT the company introduced can provide opportunities for their future career development [15], thereby evoking a strong willingness to actively participate in innovation [25] and enabling the employee to proactively break with the established paradigm and generate creative ideas. In addition, when employees believe that DT is beneficial to their personal development, it can significantly improve their workplace wellbeing [15], evoke pleasant emotional experiences and positive psychological feelings, and provide them with sufficient psychological capital to carry out digital innovation activities. Furthermore, employees who perceive the opportunities a company's DT transformation can bring are better able to appreciate the organization's support for their own career development and consider DT as a valuable organizational resource. When faced with challenging tasks, these employees are also willing to use the new generation of DT to stimulate innovative inspiration to solve problems.

In contrast, DT threat perception is defined as an individual making a threat appraisal concerning the stress caused by a company's adoption of DT [16]. When employees perceive the DT a company introduces as a threat to their career development, they will believe that their current job position may be replaced by DT. This, in turn, reduces their willingness to cooperate with DT [26], and resulting in their refusal to collaborate with DT in their creative work. Besides, employees with DT threat perceptions are prone to cynicism [5], and suspect that leaders and organizations may have

impure motives for introducing DTs into their organizations. Thus, they feel fearful and uneasy about digital transformation in their organizations, and will decrease their investment in the innovation process. Then, Lingmont and Alexiou [27] confirmed that when employees are aware of the threats posed by DT transformation, they are more prone to job insecurity, and believe that their own efforts may not necessarily yield the desired results. As a result, to avoid the risk of failure and the loss of valuable job characteristics, employees will stick to habitual behaviors based on experience, rather than engage in creative activities that will alter the status quo.

Based on the above, this study proposed the following hypotheses:

H1: Employee DT opportunity perception has a significant positive effect on digital creativity.

H2: Employee DT threat perception has a significant negative effect on digital creativity.

## 2.2. Mediating role of job crafting

Job crafting refers to the voluntary changes in work tasks, relationships, and cognition made by employees to ensure that their jobs are better suited to their preferences, abilities, and needs [19]. Based on regulatory focus theory, Bindl et al. [28] posited that job crafting can be divided into promotion-oriented and prevention-oriented job crafting. Promotion-oriented job crafting refers to the behaviors undertaken by employees to enhance task complexity, increase their work scope, and actively expand existing job boundaries, to seek greater challenges and build more extensive relationships. Prevention-oriented job crafting, on the other hand, refers to behaviors undertaken by employees to actively narrow their job boundaries and minimize possible obstacles, to satisfy their own need for safety and avoid losses.

According to the transactional theory of stress, individuals arrive at different appraisals of stressors, which reflect their understanding and views on the impact of external situations on their own interests [29]. These appraisals are the key to motivating employees to cope with stressors through different methods of job crafting. Among these, promotion-oriented job crafting stems from the individual's focus on opportunity and gain situations. When employees make challenge appraisals towards DT and perceive the opportunities resulting from DT, this will stimulate their need for growth and induce promotion-oriented job crafting behaviors. Conversely, prevention-oriented job crafting stems from the individual's cognition of threat and loss situations. When employees make threat appraisals towards DT and perceive the negative impact caused by DT, this will be interpreted negatively and increase prevention-oriented job crafting behaviors. Moreover, differences in the type of job crafting can affect the subsequent results. Specifically, promotion-oriented job crafting contributes to increased work engagement [30] and improved in-role and extra-role performance [31], which usually has a positive impact on employee work outcomes, whereas prevention-oriented job crafting tends to result in a range of negative outcomes, such as increased burnout [30], and decreased energy of employees [32]. Therefore, different states of DT perception can cause employees to adopt different approaches to job crafting, which in turn will have a differential impact on their digital creativity.

Employee DT opportunity perception enhances digital creativity through promotion-oriented job crafting. First,

employees' challenge appraisal of the pressures caused by DT development can trigger an individual's strong willingness to actively cope with difficulties. Meijerink et al. [33] noted that employees' perception of the opportunity to benefit from adopting DT can evoke their work motivation. They are more motivated to set challenging goals for themselves to pursue their ideal self, and to achieve their goals by actively optimizing their work strategies and proactively expanding their work boundaries. Second, employees with positive perceptions of DT are willing to utilize DT to access resources to improve work efficiency [34], and tend to shift their work focus from merely meeting minimum job requirements to self-improvement, thereby giving rise to more promotion-oriented job crafting behaviors. Third, when employees perceive that DT adoption can lead to growth opportunities, they will actively embrace and utilize DT to reduce obstructive job demands, reduce their perception of potential losses from technological innovations, and inhibit their work withdrawal behaviors in favor of increased promotion-oriented job crafting.

Promotion-oriented job crafting mainly include two dimensions: increasing work resources (e.g., increasing job autonomy, seeking advice from leaders.) and increasing challenging job demands (e.g., active participation in new projects.), which have been shown to positively influence employees' work outcomes [35]. Prior research has suggested that by seeking technological tools and constructing healthy working relationships, employees are provided with the structural resources needed to solve digital problems, which helps to broaden their thinking and increase their likelihood of displaying innovative behavior [36]. Additionally, employees' sense of meaning in their work is enhanced to a certain extent when dealing with developmental and challenging tasks, and they will begin to use DT to actively explore innovations and proactively try new things outside of their usual routine, which will lead to a higher level of digital creativity.

In summary, the following mediation hypothesis is proposed:

H3: Promotion-oriented job crafting mediates the relationship between employee DT opportunity perception and employee digital creativity.

Employee DT threat perception reduces digital creativity through prevention-oriented job crafting. Specifically, when employees perceive these new technologies as a threat to their jobs and career development, they are more inclined to develop a sense of knowledge territoriality [37], stop contributing their knowledge, energy, and other valuable resources to the organization, as well as display a tendency to pursue safety and avoid losses at work. Previous study has shown that when employees perceive the threat of being replaced by DT in their jobs, they feel undervalued by and loosely connected to the organization, which prevents them from appreciating their value in their professional roles [5], thereby reducing their enthusiasm for expanding their work boundaries. Moreover, employees' DT threat perception can cause immense psychological stress, which is highly likely to trigger negative emotions such as depression, burnout, and fatigue, leading to emotional exhaustion. When emotional exhaustion occurs, employees tend to adopt conservative strategies to prevent further depletion of psychological resources [38], which causes more prevention-oriented job-crafting behaviors.

Prevention-oriented job crafting refers to the behavior

undertaken by employees to actively reduce obstructive work demands to avoid risk. Employees try to avoid certain work tasks; however, these tasks and demands do not go away, but instead keep piling up, increasing their time pressure and social conflict with coworkers [39]. Constant stress and reduced interaction with coworkers can lead to the continuous loss of personal resources, placing employees at a disadvantage in creative activities that require a significant investment of resources. Furthermore, Demerouti et al. [35] proposed that prevention-oriented job crafting is a counterproductive behavior. As a negative extra-role behavior that can potentially harm the interests of others or the organization, prevention-oriented job crafting not only reduces employees' pro-organizational motivation but also decreases their work efficiency, which make employees unwilling to proactively utilize DT to explore new methods and propose new solutions.

Consequently, the following mediation hypothesis is proposed:

H4: Prevention-oriented job crafting mediates the relationship between employee DT threat perception and employee digital creativity.

### 2.3. Moderating effect of digital technology self-efficacy

As an individual characteristic concretized to the field of DT, digital technology self-efficacy refers to an individual's psychological self-confidence regarding their proficiency at using DT, with an emphasis on their judgment and measurement of their ability to use DT [20]. The field theory proposed by Kurt Lewin [21] states that individual behavioral choices are influenced by a combination of internal personal traits and external environmental conditions and that the external environment stimuli does not directly affect individual behavior, but instead requires the individual to perceive it. As a result, when internal traits differ, the states of external contextual perceptions formed by individuals will exert different effects on their behaviors. Previous studies have also confirmed that self-efficacy, a form of self-appraisal, plays an important moderating role in an individual's environment perception guidance of specific behaviors. When employees perceive technology as a benefit, the less they believe they have the potential to cope with it, the less likely they are to react positively; when employees perceive technology as a threat, the more they believe they have the potential to cope with it, the less likely they are to react negatively [40]. Based on the above, this study inferred that digital technology self-efficacy is an important boundary condition in the effect of employee DT perception on job crafting behaviors.

Digital technology self-efficacy can enhance the positive impact of employee DT opportunity perception on promotion-oriented job crafting. Specifically, high digital technology self-efficacy is accompanied by higher expectations of one's competence and a stronger belief in one's ability to use DT to perform work tasks beyond the job requirements. Employees who form DT opportunity perception are also willing to view the development of digital skills as an opportunity to achieve self-improvement [41]. Therefore, a higher sense of digital technology self-efficacy will elicit resonance between employees' perceptions and abilities, thereby stimulating their subjective initiative. In other words, employees with DT opportunity perception will expend more effort in learning new technologies, are willing

to actively utilize DT to undertake more challenging and risky tasks beyond their job responsibilities, and are more inclined to implement promotion-oriented job crafting. Conversely, employees with low digital technology self-efficacy do not believe that they can overcome the difficulties of using DT and have a limited understanding of these technologies. Even employees with DT opportunity perception will still be unsure about what actions are needed to utilize these technologies and are fearful about taking on the risks associated with DT. Hence, such employees are unwilling to deal with the difficulties encountered proactively and effectively, which is not conducive to the emergence of promotion-oriented job crafting.

Based on the analysis above, this study proposed the following hypothesis:

H5: Digital technology self-efficacy positively moderates the positive relationship between employee DT opportunity perception and promotion-oriented job crafting.

Digital technology self-efficacy can attenuate the negative impact of employee DT threat perception on prevention-oriented job crafting. Digital technology self-efficacy serves as an internal psychological resource that can help employees gradually adapt to increasing stress [42]. Employees with high digital technology self-efficacy perceive themselves as having sufficient resources to cope with various tasks at work and are less sensitive to resource loss. When faced with the threat posed by DT, employees are less concerned about the loss of their own resources, but instead perceive a gap between their actual situation and the ideal situation, causing them to expend more energy in proactive behaviors, actively integrate into the organization, and thus inhibit the emergence of prevention-oriented job crafting. In contrast, employees with low digital technology self-efficacy tend to be less confident, often having doubts about their ability to perform their work duties and not believing that they can perform their jobs well. When faced with complex DT environments, they generally feel a lack of control over technology [43]. Employees who are prone to perceive DT as a threat are also more inclined to focus on the possible negative consequences of using DT in their work, such as failure and frustration. Consequently, lower digital technology self-efficacy will cause such employees to be more sensitive to negative stimuli, and increase their aversion to DT, resulting in their greater willingness to adopt prevention-oriented job crafting to avoid risks.

Based on the analysis above, this study proposed the following hypothesis:

H6: Digital technology self-efficacy negatively moderates the positive relationship between employee DT threat perception and prevention-oriented job crafting.

By combining the above analyses, we further hypothesized that digital technology self-efficacy will also have a moderating effect on the mediating effects above. More specifically, when digital technology self-efficacy is high, employee DT opportunity perception will induce more promotion-oriented job crafting behaviors, thereby exerting a positive effect on employee digital creativity. Conversely, when digital technology self-efficacy is low, employee DT threat perception will lead to stronger prevention-oriented job crafting, thereby hindering the generation of digital creativity.

Accordingly, the following hypotheses are proposed:

H7: Digital technology self-efficacy positively moderates the indirect effects of employee DT opportunity perception on their digital creativity through promotion-oriented job

crafting.

H8: Digital technology self-efficacy negatively moderates the indirect effects of employee DT threat perception on their

digital creativity through prevention-oriented job crafting.

The theoretical model constructed in this study is shown in Fig. 1.

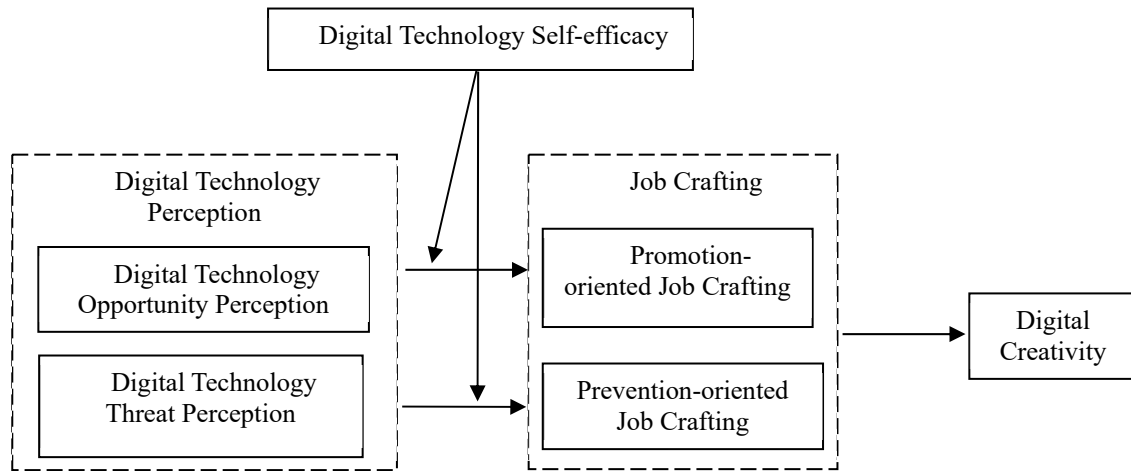


Figure 1. Theoretical model

### 3. Methods

#### 3.1. Samples and procedures

To test proposed model, we collected data using questionnaire-based survey. The target enterprises were restricted at those who have relevant digital transformation experience. Through field research, we selected twelve enterprises in Chongqing, Sichuan and Hubei provinces, mainly involving manufacturing, Internet industry and financial industry. Before the survey begins, we explained to participants (employees and their immediate leaders) that the questionnaire was only used for academic research and guaranteed the anonymity. A two-wave research design was used to collect leader–employee pair matched data, with a two weeks gap between each wave. At time 1, employees were asked to provide information that included demographic information, occupation type, digital technology opportunity perception, promotion-oriented job crafting, and whether they had been exposed to digital technology (such as AI, robots, and big data analytics, etc.). A total of 600 questionnaires were distributed this time, and 522 valid questionnaires were obtained after excluding employees who had not been exposed to digital technology and other invalid questionnaires. At time 2, the employees who provided valid result were asked to complete the measures of digital technology threat perception, prevention-oriented job crafting, digital technology self-efficacy. While digital creativity was reported by their immediate leaders and each leader evaluated three to six of his/her subordinates.

The final sample included 451 leader-employee dyads, for an effective response rate of 75.2%. Among them, in terms of gender, there are 212 males, accounting for 47.01%, and 239 females, accounting for 52.99%; in terms of age, there are 198 employees aged 25-35, accounting for 43.90%; in terms of education, there are a total of 305 employees with bachelor's degree or above, accounting for 67.63%; in terms of occupation type, the sample is widely distributed in finance/auditing (7.54%), management (6.43%), technology/R&D (7.10%), human resources (11.97%), production staff (5.99%), marketing/PR (10.20%), clerical (15.08), sales staff (10.64%), administration/logistics

(10.20%), customer service (6.87%), professionals (6.21%), and other occupations ( 1.77%); in terms of years of experience, 2 to 5 years accounted for 33.70% and 6 to 10 years accounted for 30.38%.

#### 3.2. Measures

The scales used in this study are all mature scales from internationally recognized journals, and some of the questions were modified appropriately to take into account the background of this study. All variables were measured on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Digital technology opportunity perception. The five-item scale revised by Xu et al. [15] on Highhouse & Yüce [44] was adopted, since digital technology includes more than AI, we change the word “AI” in the scales to “Digital Technology”. A sample item is “The adoption of digital technology by enterprises is beneficial to me” (Cronbach's alpha = 0.882).

Digital technology threat perception. Drawing on the approach of Xu et al. [15], the five-item scale developed by Highhouse and Yüce [44] was adopted similarly, and we revised it based on the background of digital technology development. A sample item is “It is possible for me to loss more than gain when enterprises apply digital technology” (Cronbach's alpha = 0.854).

Promotion-oriented job crafting. We measure promotion-oriented job crafting with a sixteen-item scale developed by Bindl et al. [28]. A sample item is “I actively seek opportunities to improve my overall skills at work” (Cronbach's alpha = 0.941).

Prevention-oriented job crafting. We measure prevention-oriented job crafting with a twelve-item scale developed by Bindl et al. [28]. A sample item is “I try to avoid situations at work where I have to meet new people” (Cronbach's alpha = 0.930).

Digital technology self-efficacy. The scale developed by Mancha et al. [20] was adopted, which contains seven items, a sample item is “I believe I can master most digital technologies well” (Cronbach's alpha = 0.901).

Digital Creativity. We assessed digital creativity using the three-item scale developed by Shao et al. [1]. A sample item

is “I am able to come up with creative solutions to solve problems at work by using the digital technology implemented in my company”(Cronbach's alpha = 0.821).

Control variables. Following previous study [15], we controlled gender, age, education, and tenure. Meanwhile, Paluch et al. [26] found relationship between occupation type and employee digital technology perception. Therefore, we also included occupation type as a control variable.

## 4. Results

### 4.1. Common method bias test

To ensure the quality of our data, we used several methods to minimize the issue of common method bias. Firstly, we assured participants of the anonymity of the questionnaire. Secondly, we collected data from employee-leader dyads at

two time points, each two weeks apart. Thirdly, Harman’s single factor test was employed to test the common method bias. Unrotated exploratory factor analysis revealed that the total variance explained by first factor was 29.776%, less than the threshold of 40% [45]. Therefore, it can be assumed that there was no serious common method bias in this model.

### 4.2. Confirmatory factor analysis

Before testing the hypotheses, we used Mplus 8.3 to test the discriminant validity of six main variables. The confirmatory factor analysis (CFA) results (see Table 1) show that compared with the other alternative models, the six-factor model had the best data fit ( $\chi^2/df = 1.404$ , CFI = 0.963, TLI = 0.961, RMSEA = 0.030, and SRMR = 0.034), suggesting that the study had an acceptable discriminant validity

**Table 1.** Confirmatory factor analysis result

model	$\chi^2$	df	$\chi^2/df$	CFI	TLI	RMSEA	SRMR
One-factor model (DTOP + DTTP + ProJC + PreJC + DTSE + DC)	6765.888	1080	6.265	0.515	0.494	0.108	0.122
Two-factor model (DTOP + DTTP + ProJC + PreJC + DTSE, DC)	6425.370	1079	5.955	0.544	0.524	0.105	0.120
Three-factor model (DTOP + DTTP + ProJC + PreJC, DTSE, DC)	5231.320	1077	4.857	0.646	0.629	0.092	0.108
Four-factor model (DTOP + DTTP, ProJC + PreJC, DTSE, DC)	4193.292	1074	3.904	0.734	0.721	0.080	0.094
Five-factor model A (DTOP + DTTP, ProJC, PreJC, DTSE, DC)	2208.603	1070	2.064	0.903	0.898	0.049	0.056
Five-factor model B (DTOP, DTTP, ProJC + PreJC, DTSE, DC)	3483.166	1070	3.255	0.794	0.783	0.071	0.083
Hypothesized six-factor model (DTOP, DTTP, ProJC, PreJC, DTSE, DC)	1494.845	1065	1.404	0.963	0.961	0.030	0.034

Note: N=451; DTOP = Digital technology opportunity perception, DTTP = Digital technology threat perception, ProJC = Promotion-oriented job crafting, PreJC = Prevention-oriented job crafting, DTSE = Digital technology self-efficacy, DC = Digital creativity

### 4.3. Descriptive statistics and correlation analysis

The means, standard deviations and correlations of variables are shown in Table 2. Digital technology opportunity perception was positively related to digital creativity ( $r = 0.451, p < 0.001$ ) and promotion-oriented job

crafting ( $r = 0.408, p < 0.001$ ). Digital technology threat perception was negatively related to digital creativity ( $r = -0.306, p < 0.001$ ), and prevention-oriented job crafting ( $r = 0.288, p < 0.001$ ). Promotion-oriented job crafting was positively related to digital creativity ( $r = 0.380, p < 0.001$ ), and prevention-oriented job crafting was negatively related to digital creativity ( $r = -0.271, p < 0.001$ ).

**Table 2.** Descriptive statistics and correlation analysis result

Variables	Gender	Age	Education	Occupation	Tenure	DTOP	DTTP	ProJC	PreJC	DTSE	DC
Gender	-										
Age	-0.073	-									
Education	-0.026	-0.317***	-								
Occupation	-0.016	-0.056	-0.086	-							
Tenure	-0.024	0.681***	-0.111*	-0.026	-						
DTOP	-0.047	-0.027	0.021	-0.065	0.072	0.882					
DTTP	0.015	0.053	0.036	-0.062	-0.038	-0.382***	0.854				
ProJC	-0.062	-0.069	0.057	-0.143**	-0.036	0.408***	-0.252***	0.941			
PreJC	-0.027	0.047	-0.036	-0.043	-0.080	-0.305***	0.288***	-0.442***	0.930		
DTSE	-0.098*	0.030	-0.007	-0.158**	0.073	0.483***	-0.016	0.437***	-0.258***	0.901	
DC	0.022	-0.009	0.062	-0.123**	0.075	0.451***	-0.306***	0.380***	-0.271***	0.413***	0.821
M	1.530	2.306	2.690	6.215	2.570	3.440	2.844	3.440	2.768	3.347	3.460
SD	0.250	1.226	0.668	8.849	0.966	0.918	0.603	0.727	0.813	0.929	1.034

Note: N = 451; \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ ; Cronbach's  $\alpha$  coefficients are displayed along the diagonal

### 4.4. Main effect test

Multiple linear regression analysis was used to test our

hypothesis. The results are shown in Table 3. Model 5 indicated that digital technology opportunity perception was

positively affected digital creativity ( $\beta = 0.441, P < 0.001$ ), and Model 7 showed that digital technology threat perception was negatively related to digital creativity ( $\beta = -0.310, P < 0.001$ ), thus, hypothesis 1 and 2 were supported.

#### 4.5. Mediation effect test

Then we followed the process defined by Baron & Kenny [46] to analyze the mediation effect. Firstly, the positive relationship between digital technology opportunity perception and digital creativity and the negative relationship between digital technology threat perception and digital creativity have been confirmed; Secondly, there was a significant positive relationship between digital technology opportunity perception and Promotion-oriented job crafting ( $\beta = 0.400, P < 0.001$ ) (see Model 1), and digital technology

threat perception was also positively associated with prevention-oriented job crafting ( $\beta = 0.274, P < 0.001$ ) (see Model 3); Thirdly, the results of Model 6 showed that promotion-oriented job crafting was positively related to digital creativity ( $\beta = 0.231, P < 0.001$ ), and the results of Model 8 indicated that prevention-oriented job crafting was negatively related to digital creativity ( $\beta = -0.194, P < 0.001$ ); the main effect between digital technology opportunity perception and digital creativity became smaller after adding promotion-oriented job crafting ( $\beta = 0.348, P < 0.001$ ) (see Model 6), and the main effect between digital technology threat perception and digital creativity also became smaller after introducing prevention-oriented job crafting ( $\beta = -0.257, P < 0.001$ ). Therefore, there are sufficient evidence to accept hypothesis 3 and hypothesis 4.

**Table 3.** Multiple linear regression analysis result

Variables	ProJC		PreJC		DC			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Control variables								
Gender	-0.048	-0.028	-0.026	-0.054	0.042	0.053	0.025	0.020
Age	-0.029	-0.022	0.132*	0.119	-0.032	-0.025	-0.047	-0.022
Education	0.023	0.023	-0.025	-0.024	0.043	0.038	0.058	0.053
Occupation	-0.119*	-0.075	-0.026	-0.072	-0.090*	-0.062	-0.137**	-0.142**
Tenure	-0.047	0.058	-0.164	-0.128*	0.068	0.079	0.098	0.066
Independent variables								
DTOP	0.400***	0.257***			0.441***	0.348***		
DTTP			0.274***	0.227***			-0.310***	-0.257***
Mediators								
ProJC						0.231***		
PreJC								-0.194***
Moderator								
DTSE		0.294***		-0.273***				
Interaction terms								
DTOP×DTSE		0.107**						
DTTP×DTSE				-0.182***				
R <sup>2</sup>	0.188	0.267	0.101	0.198	0.219	0.262	0.124	0.158
Adjust R <sup>2</sup>	0.177	0.254	0.089	0.184	0.208	0.251	0.112	0.144
ΔR <sup>2</sup>	0.156	0.079	0.073	0.097	0.190	0.233	0.095	0.129
F	17.182***	20.158***	8.295***	9.689***	20.739***	22.510***	10.439***	11.840***

Note: N = 451; \*\*\* p<0.001, \*\* p<0.01, \* p<0.05

In addition, we used Bootstrap method to better illustrate the mediation effect (see Table 4). The results showed that the indirect effect of digital technology opportunity perception on digital creativity through promotion-oriented job crafting was 0.098 (95% CI = [0.058,0.146]), not including 0, thus,

hypothesis 3 was further supported. The indirect effect of digital technology threat Perception on digital creativity through prevention-oriented job crafting was -0.070 (95% CI = [-0.120, -0.031]), not containing 0, thus, hypothesis 4 was also further supported.

**Table 4.** Bootstrap mediation test results

Mediators	Category of effect	Effect	SE	95% CI	
				LLCI	ULCI
Mediating Effect 1: DTOP → ProJC → DC					
ProJC	indirect effect	0.098	0.022	0.058	0.146
	direct effect	0.396	0.048	0.275	0.463
Mediating Effect 2: DTTP → PreJC → DC					
PreJC	indirect effect	-0.070	0.022	-0.120	-0.031
	direct effect	-0.337	0.060	-0.455	-0.219

Note: N = 451, Bootstrap = 5000; CI: bias-corrected confidence intervals; SE: standard error

#### 4.6. Moderation effects test

To test the moderation effect of digital technology self-efficacy, we started by examining the interactive effect of independent and moderating variables on mediating variables. The results explained that the interaction term of digital technology opportunity perception and digital technology self-efficacy was significant positive for promotion-oriented job crafting ( $\beta = 0.107, P < 0.01$ ) (see Model 2), supporting hypothesis 5; the interaction term of digital technology threat

perception and digital technology self-efficacy was significant negative for prevention-oriented job crafting ( $\beta = -0.182, P < 0.001$ ) (see Model 4), supporting hypothesis 6. Furthermore, simple slope analysis of the interactions revealed that as digital technology self-efficacy increases, the positive relationship between digital technology opportunity perception and promotion-oriented job crafting was stronger (see Fig. 2), while the positive relationship between digital technology threat perception and prevention-oriented job crafting was found to be weaker (see Fig. 3).

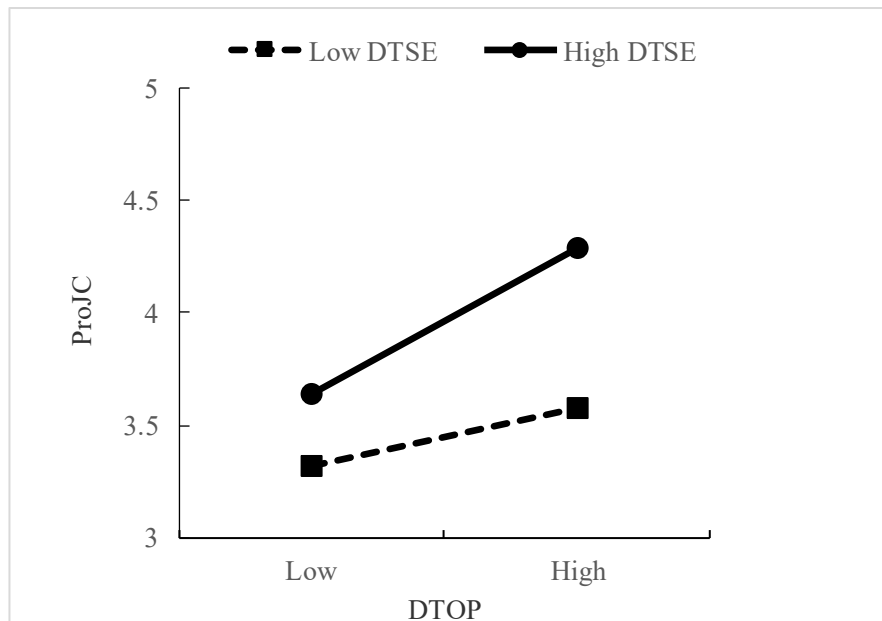


Figure 2. The moderating effect of DTSE on DTOP and ProJC

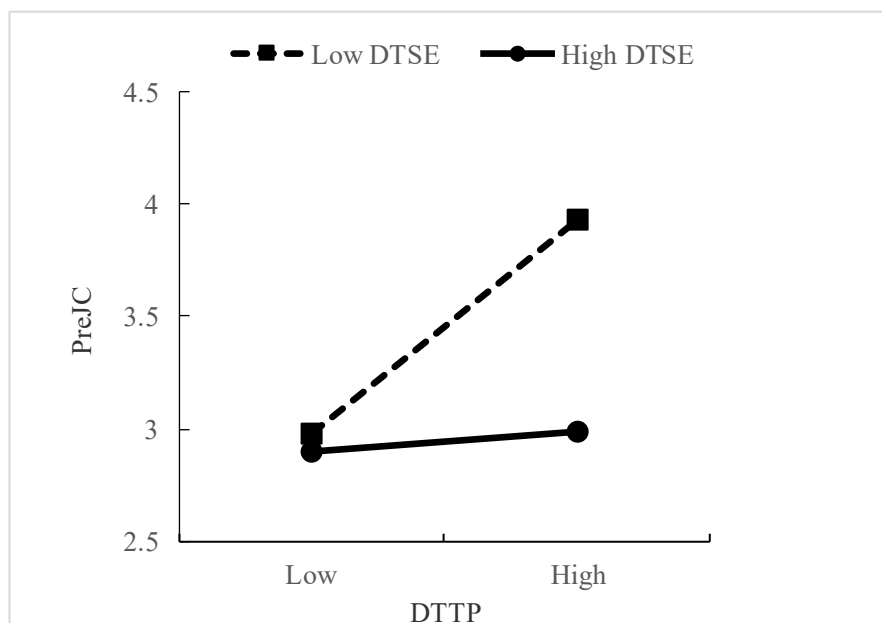


Figure 3. The moderating effect of DTSE on DTTP and PreJC

#### 4.7. Moderated mediation effects test

Further, to verify the moderating role of digital technology self-efficacy on the mediating effect, SPSS PROCESS macro 3.4 was used to conduct Bootstrap tests, to calculate the

mediating effects of promotion-oriented job crafting and prevention-oriented job crafting in both high digital technology self-efficacy (+1 SD) and low digital technology self-efficacy (-1 SD) conditions. As shown in Table 5, when digital technology self-efficacy was low, the indirect effect of

digital technology opportunity perception on digital creativity through promotion-oriented job crafting was 0.036 (95% CI = [0.002,0.074]), did not include 0. When digital technology self-efficacy was high, the indirect effect of digital technology opportunity perception on digital creativity through promotion-oriented job crafting was 0.090 (95% CI = [0.048,0.143]), which still did not contain 0. Whereas, the difference between the two conditions was significant (95% CI = [0.008,0.115]), hypothesis 7 was confirmed. Meanwhile, the indirect effect of digital technology threat perception

affecting digital creativity through prevention-oriented job crafting was -0.103 (95% CI = [-0.161, -0.052]) was not significant under low digital technology self-efficacy, but when digital technology self-efficacy was high, the indirect effect value of digital technology threat perception affecting digital creativity through prevention-oriented job crafting was -0.012 (95% CI = [-0.072,0.033]), significant. The difference between the two conditions was significant (95% CI = [0.030,0.162]). Thereby, hypothesis 8 was also supported.

**Table 5.** Moderated mediating effect analysis results

Moderator	Effect	SE	95% CI	
			LLCI	ULCI
Mediating Effect 1: DTOP → ProJC → DC				
High DTSE (+1SD)	0.090	0.024	0.048	0.143
Low DTSE (-1SD)	0.036	0.018	0.002	0.074
Difference	0.053	0.027	0.008	0.115
Mediating Effect 2: DTTP → PreJC → DC				
High DTSE (+1SD)	-0.012	0.026	-0.072	0.033
Low DTSE (-1SD)	-0.103	0.028	-0.161	-0.052
Difference	0.091	0.034	0.030	0.162

Note: N = 451, Bootstrap = 5000; CI: bias-corrected confidence intervals; SE: standard error

## 5. Discussion

Based on the transactional theory of stress and psychological field theory, this study explored the mechanism and boundary conditions of employee DT perception on employee digital creativity. The main findings are as follows: (1) DT opportunity perception positively affected digital creativity, and DT threat perception negatively affected digital creativity; (2) DT opportunity perception positively affected digital creativity by increasing promotion-oriented job crafting, and DT threat perception negatively affected digital creativity by increasing prevention-oriented job crafting; (3) Digital technology self-efficacy not only positively moderated the relationship between DT opportunity perception and promotion-oriented job crafting, but also positively moderated the mediating effect of DT opportunity perception on digital creativity through promotion-oriented job crafting; (4) Digital technology self-efficacy not only negatively moderated the relationship between DT threat perception and prevention-oriented job crafting, but also negatively moderated the mediating effect of DT threat perception on digital creativity through prevention-oriented job crafting.

### 5.1. Theoretical Implications

This study explores the mechanisms by which employee DT perceptions influenced digital creativity. Digital creativity is an emerging research hotspot in the field of creativity, serving as a key element in enhancing employee performance and unleashing the transformational potential of companies. Previous studies have mainly focused on the organizational and team levels, with an emphasis on analyzing the impact of leadership style and team climate on digital creativity, while very few studies have explored the formative mechanism of employee digital creativity at the individual level. According

to existing research, when faced with the pressures of digital transformation, employees will form two different perceptions of DT in their organizations, namely, opportunity perception and threat perception [15]. These different perceptions and attitudes towards DT are important prerequisites for whether employees adopt creative behaviors [24]. In this study, employee DT perception was taken as an important antecedent variable of digital creativity, to explore the role of different types of DT perception on employee digital creativity in greater depth, which allowed us to fill the gap in the research on the formative mechanism of digital creativity at the level of individual "technological cognition" to some extent.

Moreover, based on the transactional theory of stress, we elucidated the mediating role of promotion-oriented / prevention-oriented job crafting in the impact of employee DT perceptions on employee digital creativity. These findings can serve as a new basis for understanding what actions employees will undertake to cope with stressful events in their organizations within the context of digital transformation. Previous studies have mostly considered job crafting as a holistic variable when examining the intrinsic mechanisms by which perceptions of workplace stress affect individual creativity while overlooking differences in job crafting across its different dimensions. However, different types of job crafting can have different effects on factors such as employee engagement and job performance [30]. Using this as an entry point, we divided job crafting into two dimensions: promotion-oriented job crafting and prevention-oriented job crafting, and introduce both types of job crafting into the discussion of the relationship between employee DT perception and employee digital creativity. Not only is this in line with emerging trends in research on job-crafting behavior [28] but also provides a new theoretical perspective for studying the transmission mechanism by which employee DT

perception affects their digital creativity.

Finally, based on Kurt Lewin's field theory, we clarified the moderating mechanism of digital technology self-efficacy in the impact of employee DT perception on job crafting. In the past, researchers have only applied the job demands-resources (JD-R) theory and conservation of resources (COR) theory, focusing on the boundary conditions for the impact of employee DT perceptions from aspects such as DT knowledge [11] and career progression [47]. However, these studies did not fully consider the crucial role played by personal traits. In this study, we introduced self-efficacy and incorporated it into the digital research framework, to propose a context-specific psychological characteristic (i.e., digital technology self-efficacy). Our findings confirmed that digital technology self-efficacy played a dual moderating role in the influencing mechanism of employee opportunity and threat perceptions. Digital technology self-efficacy not only enhanced the positive impact of employee DT opportunity perception but also attenuated the negative impact of employee DT threat perception. The conclusions above have helped to broaden the exploration of boundary mechanisms for DT perception under different conditions.

## 5.2. Managerial implications

Employee responses when interacting with DT should be continuously monitored. Many companies are hampered by the inert idea that digital transformation is a one-off event, often placing a one-sided emphasis on "technocentrism". Thus, during the transformation process, these companies have only made large financial investments to accumulate technological elements, while ignoring the perceptions and needs of employees. This approach will, to some extent, cause employees to have insufficient intrinsic motivation for innovation, which will impede the sustainability of the company's digital transformation. This study found that employee perception of DT as an opportunity had a positive impact on their digital creativity, whereas employee perception of DT as a threat to career advancement hindered digital creativity. Therefore, before introducing DT, companies should consider the differences in employee technological cognition, and adopt the two-prong empowerment strategy of "welcoming in + stepping out" to guide employees in updating their concepts and abandoning old technological cognition. Advanced experiences should be "welcomed in" by inviting experts to provide comprehensive and systematic technical training, and employees should be encouraged to be more aware of the development opportunities DT brings rather than focus on their fears of being replaced. However, arrangements should also be made for employees to "step out," to engage with exchanges and collaborations with benchmark companies that have successfully undergone DT transformation. This will allow them to gain an in-depth understanding of the operating logic and potential value of new technologies, thus enabling them to view the changes in their jobs caused by their company's application of AI, big data, and other DTs in a more rational manner, while also overcoming their resistance to DT. In addition, after the introduction of DT, companies should establish a real-time monitoring and feedback mechanism for employee DT perception, while also maintaining iterative updates of technical training and dynamic optimization of resource allocation, to strengthen and consolidate the positive attitude of employees towards the company's application of DT.

Additionally, differential management approaches should be adopted for employees with different DT perceptions. In the digital economy, employees are not "passive adapters" to the work environment, but rather "active participants," who will actively adjust their own capabilities and resources to improve their job fitness. Therefore, managers should support employees in using their strengths to balance work demands and work resources and focus on stimulating employee motivation for promotion-oriented job crafting. Employees who have a strong DT opportunity perception are more aware of proactively acquiring resources to improve their own work, resulting in higher levels of digital creativity. Managers need to establish good institutional safeguards to provide such employees with more job autonomy and authorize them to explore behaviors that cross job boundaries, to ensure their work enthusiasm. In contrast, employees who feel threatened by DT tend to decrease their work enthusiasm and commitment to ensure their safety, causing them to exhibit more prevention-oriented job crafting behaviors, which is not conducive to the generation of digital creativity. Managers need to communicate with such employees promptly, formulate a personalized plan that combines short-term and long-term development, and convey to them the organization's concern and support for their career development, to encourage them to adopt a win-win mentality when interacting with DT. Second, to avoid a disconnect between human capital and job positions, companies can also help employees with a strong DT threat perception to choose more compatible jobs by providing them with job retraining, thus enabling them to adapt to the ever-changing technological environment and alleviating their concerns about engaging in promotion-oriented job crafting.

Furthermore, cultivating and managing employee digital technology self-efficacy should be emphasized. This study found that digital technology self-efficacy played a positive role in guiding employee behavior. High digital technology self-efficacy not only enabled employees with DT opportunity perception to exhibit more promotion-oriented job crafting behaviors but also attenuated the impact of employee DT threat perception on prevention-oriented job crafting. Therefore, in the process of employee development, companies should adopt appropriate measures to stimulate their digital technology self-efficacy. First, companies can comprehensively examine the psychological attributes of their employees through psychological tests and scenario simulations, focus on employees with higher digital technology self-efficacy, and encourage them to take the lead in using DT, to improve the overall digital literacy of their employees. Second, managers should lead by example, take the initiative to use DT, create a work climate that encourages innovation and tolerates failure, and cultivate employees' confidence in using DT, thereby allowing them to engage in their work with a more optimistic mindset. Finally, companies can build knowledge-sharing platforms, broaden the information exchange channels, help employees to promptly resolve problems encountered in the use of DT, as well as encourage employees to affirm their abilities and actively use DT to explore innovations.

## 6. Conclusion

In conclusion, this study reveals the complex interplay among digital technology perception, job crafting, digital technology self-efficacy, and digital creativity. The findings underscore the critical importance of understanding

employees' perceptions of digital technology - viewing DT as an opportunity fosters digital creativity, whereas perceiving it as a career threat may hinder innovation. Furthermore, this study elucidates how employees' differing DT perceptions influence digital creativity through two distinct job crafting mechanisms: promotion-oriented and prevention-oriented job crafting. Therefore, managers should develop targeted training programs and support measures based on employees' DT perceptions to foster positive job crafting. Finally, this study highlights the pivotal role of digital technology self-efficacy in moderating the relationship between employees' DT perceptions and job crafting, thereby further enhancing their digital creativity. Despite its contributions, this study has certain limitations, which also open avenues for future research. First, although this study adopted a multi-source, multi-wave leader-employee paired questionnaire to reduce common method bias, the robustness of the inferred causal relationships between variables needs to be further examined due to the limitations of the study sample and research methodology. Future studies can better test the research model by expanding the sample size, as well as using other approaches such as experimental and case study methods. Second, this study revealed the mediating role of promotion-oriented and prevention-oriented job crafting; however, the mechanism between employee DT perceptions and digital creativity may have other paths. Future studies could consider exploring potential mediating mechanisms from more theoretical perspectives such as self-determination theory and activation theory. Finally, this study explored the moderating role of digital technology self-efficacy only from the perspective of personal traits. In the future, the boundary conditions for the mechanism underlying the impact of employee DT perception on digital creativity could be further explored from aspects such as leadership skills and team characteristics.

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## References

- [1] Shao Z, Li X, Wang Q. From ambidextrous learning to digital creativity: An integrative theoretical framework[J]. *Information Systems Journal*, 2022, 32(3): 544-572.
- [2] Hahm S. Information sharing and creativity in a virtual team: Roles of authentic leadership, sharing team climate and psychological empowerment[J]. *KSI Transactions on Internet and Information Systems (TIIS)*, 2017, 11(8): 4105-4119.
- [3] Lee KC. *Digital creativity: Individuals, groups, and organizations*[M]. Springer Science & Business Media, 2012.
- [4] Pittenger LM, Berente N, Gaskin J. Transformational IT leaders and digital innovation: the moderating effect of formal IT governance[J]. *ACM SIGMIS Database: The DATABASE for Advances in Information Systems*, 2022, 53(1): 106-133.
- [5] Brougham D, Haar J. Smart technology, artificial intelligence, robotics, and algorithms (STARA): Employees' perceptions of our future workplace[J]. *Journal of Management & Organization*, 2018, 24(2): 239-257.
- [6] Bruno C. *Creativity in the Design Process*[M]. Springer International Publishing, 2022.
- [7] Liang X, Guo G, Shu L et al. Investigating the double-edged sword effect of AI awareness on employee's service innovative behavior[J]. *Tourism Management*, 2022, 92:104564.
- [8] Wang H, Zhang H, Chen Z et al. Influence of artificial intelligence and robotics awareness on employee creativity in the hotel industry[J]. *Frontiers in Psychology*, 2022, 13: 834160.
- [9] Presbitero A, Teng-Calleja M. Job attitudes and career behaviors relating to employees' perceived incorporation of artificial intelligence in the workplace: a career self-management perspective[J]. *Personnel Review*, 2023, 52(4): 1169-1187.
- [10] Kong H, Yuan Y, Baruch Y et al. Influences of artificial intelligence (AI) awareness on career competency and job burnout[J]. *International Journal of Contemporary Hospitality Management*, 2021, 33(2): 717-734.
- [11] He C, Teng R, Song J. Linking employees' challenge-hindrance appraisals toward AI to service performance: the influences of job crafting, job insecurity and AI knowledge[J]. *International Journal of Contemporary Hospitality Management*, 2023, 36(3): 975-994.
- [12] Zhou G, Chu G, Li L et al. The effect of artificial intelligence on China's labor market[J]. *China Economic Journal*, 2020, 13(1): 24-41.
- [13] Ding L. Employees' challenge-hindrance appraisals toward STARA awareness and competitive productivity: a micro-level case[J]. *International Journal of Contemporary Hospitality Management*, 2021, 33(9): 2950-2969.
- [14] Lazarus RS, Folkman S. *Stress, appraisal, and coping*[M]. Springer publishing company, 1984.
- [15] Xu G, Xue M, Zhao J. The relationship of artificial intelligence opportunity perception and employee workplace well-being: A moderated mediation model[J]. *International Journal of Environmental Research and Public Health*, 2023, 20(3): 1974.
- [16] Brougham D, Haar J. Technological disruption and employment: The influence on job insecurity and turnover intentions: A multi-country study[J]. *Technological Forecasting and Social Change*, 2020, 161: 120276.
- [17] Folkman S, Lazarus RS, Dunkel-Schetter C et al. Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes[J]. *Journal of Personality and Social Psychology*, 1986, 50(5): 992-1003.
- [18] Mo Z, Liu MT, Ma Y. How AI awareness can prompt service performance adaptivity and technologically-environmental mastery[J]. *Tourism Management*, 2024, 105: 104971.
- [19] Wrzesniewski A, Dutton JE. Crafting a job: Revisioning employees as active crafters of their work[J]. *Academy of management review*, 2001, 26(2): 179-201.
- [20] Mancha R, Shankaranarayanan G. Making a digital innovator: antecedents of innovativeness with digital technologies [J]. *Information Technology & People*, 2021, 34(1): 318-335.
- [21] Lewin, K. Defining the 'field at a given time'[J]. *Psychological review*, 1943, 50(3): 292-310.
- [22] Burnes B, Cooke B. Kurt Lewin's Field Theory: A Review and Re-evaluation[J]. *International journal of management reviews*, 2013, 15(4): 408-425.
- [23] Lee MR, Chen TT. Digital creativity: Research themes and framework[J]. *Computers in human behavior*, 2015, 42: 12-19.
- [24] Nisula AM, Heinänen S, Kianto A et al. A psychological perspective on the sociotechnical enablers of knowledge worker digital creativity[J]. *Digital Creativity*, 2022, 33(4): 314-328.

- [25] Ding L. Employees' STARA awareness and innovative work behavioural intentions: Evidence from US casual dining restaurants. *Global strategic management in the service industry: A perspective of the new era*[M]. Emerald Publishing Limited, 2022, 17-56.
- [26] Paluch S, Tuzovic S, Holz HF et al. "My colleague is a robot" – exploring frontline employees' willingness to work with collaborative service robots[J]. *Journal of Service Management*, 2022, 33(2): 363-388.
- [27] Lingmont DN, Alexiou A. The contingent effect of job automating technology awareness on perceived job insecurity: Exploring the moderating role of organizational culture[J]. *Technological Forecasting and Social Change*, 2020, 161: 120302.
- [28] Bindl UK, Unsworth KL, Gibson CB et al. Job crafting revisited: Implications of an extended framework for active changes at work[J]. *Journal of Applied Psychology*, 2019, 104(5): 605-628.
- [29] Lazarus RS, Folkman S. Transactional theory and research on emotions and coping[J]. *European Journal of Personality*, 1987, 1(3): 141-169.
- [30] Lichtenthaler PW, Fischbach A. A meta-analysis on promotion-and prevention-focused job crafting[J]. *European Journal of Work and Organizational Psychology*, 2019, 28(1): 30-50.
- [31] Boehnlein P, Baum M. Does job crafting always lead to employee well-being and performance? Meta-analytical evidence on the moderating role of societal culture[J]. *The International Journal of Human Resource Management*, 2022, 33(4): 647-685.
- [32] Doden W, Bindl U, Unger D. Does it take two to tango? Combined effects of relational job crafting and job design on energy and performance[J]. *Journal of Organizational Behavior*, 2024, 45(8): 1189-1207.
- [33] Meijerink J, Bos-Nehles A, de Leede J. How employees' proactivity translates high-commitment HRM systems into work engagement: The mediating role of job crafting[J]. *The International Journal of Human Resource Management*, 2020, 31(22): 2893-2918.
- [34] Lu L, Cai R, Gursoy D. Developing and validating a service robot integration willingness scale[J]. *International Journal of Hospitality Management*, 2019, 80: 36-51.
- [35] Demerouti E, Bakker AB, Gevers JM. Job crafting and extra-role behavior: The role of work engagement and flourishing[J]. *Journal of Vocational Behavior*, 2015, 91: 87-96.
- [36] Karatepe OM, Ampofo ET, Kim TT et al. The trickle-down effect of leader psychological capital on follower creative performance: the mediating roles of job crafting and knowledge sharing. *International Journal of Contemporary Hospitality Management*, 2024, 36(9): 3168-3189.
- [37] Arias-Pérez J, Vélez-Jaramillo J. Understanding knowledge hiding under technological turbulence caused by artificial intelligence and robotics[J]. *Journal of Knowledge Management*, 2022, 26(6): 1476-1491.
- [38] Bolton LR, Harvey RD, Grawitch MJ et al. Counterproductive work behaviours in response to emotional exhaustion: A moderated mediational approach[J]. *Stress and Health*, 2012, 28(3): 222-233.
- [39] Brenninkmeijer V, Hekkert-Koning M. To craft or not to craft: The relationships between regulatory focus, job crafting and work outcomes[J]. *Career Development International*, 2015, 20(2): 147-162.
- [40] Beaudry A, Pinsonneault A. The other side of acceptance: Studying the direct and indirect effects of emotions on information technology use[J]. *MIS quarterly*, 2010, 34(4): 689-710.
- [41] Fida R, Paciello M, Tramontano C et al. "Yes, I Can": the protective role of personal self-efficacy in hindering counterproductive work behavior under stressful conditions[J]. *Anxiety, Stress, & Coping*, 2015, 28(5): 479-499.
- [42] Yener S, Arslan A, Kiliç S. The moderating roles of technological self-efficacy and time management in the technostress and employee performance relationship through burnout[J]. *Information Technology & People*, 2021, 34(7): 1890-1919.
- [43] Delpechitre D, Black HG, Farrish J. The dark side of technology: examining the impact of technology overload on salespeople[J]. *Journal of Business & Industrial Marketing*, 2019, 34(2): 317-337.
- [44] Highhouse S, Yüce P. Perspectives, perceptions, and risk-taking behavior[J]. *Organizational Behavior and Human Decision Processes*, 1996, 65(2): 159-167.
- [45] Podsakoff PM, MacKenzie SB, Lee JY et al. Common method biases in behavioral research: a critical review of the literature and recommended remedies[J]. *Journal of applied psychology*, 2003, 88(5): 879-903.
- [46] Baron RM, Kenny DA. The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations[J]. *Journal of personality and social psychology*, 1986, 51(6): 1173-1182.
- [47] Zhang X, Jin H. How does smart technology, artificial intelligence, automation, robotics, and algorithms (STAARA) awareness affect hotel employees' career perceptions? A disruptive innovation theory perspective[J]. *Journal of Hospitality Marketing & Management*, 2023, 32(2): 264-283.