Social media use and employee innovation performance: The roles of work engagement and traditionality
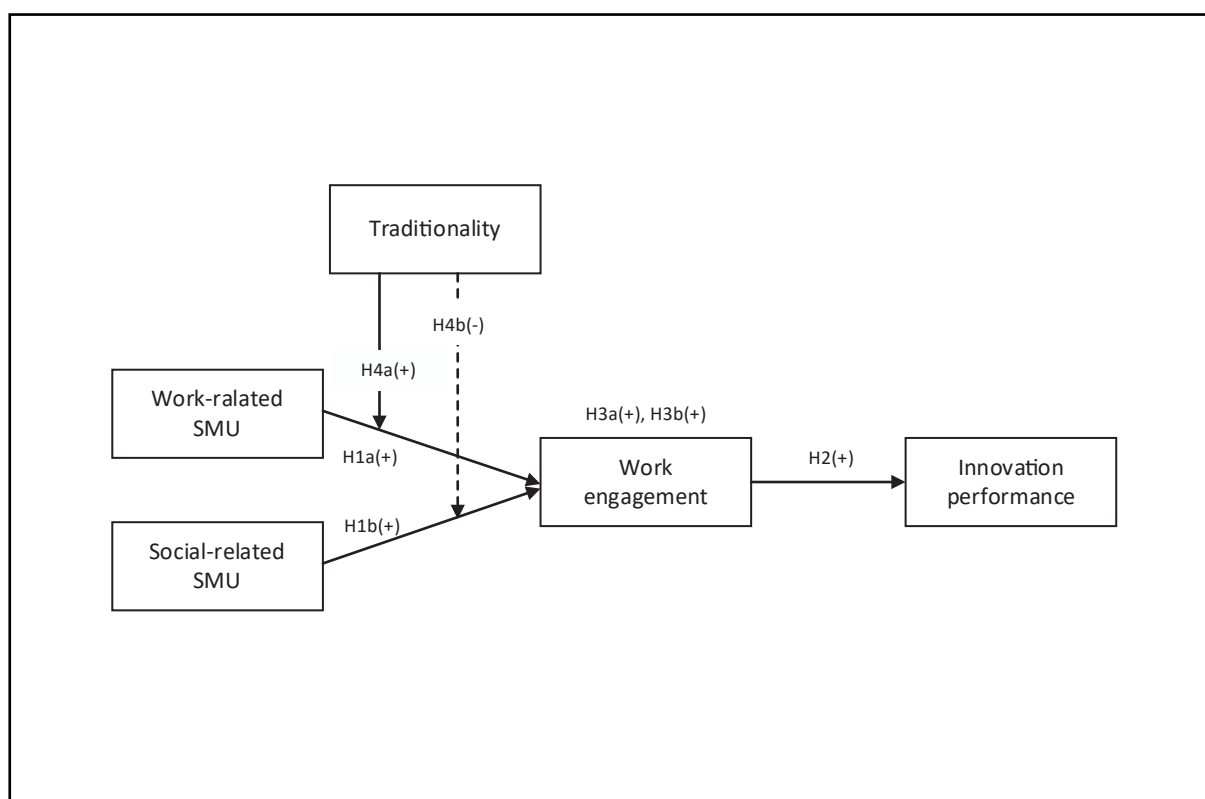
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Graphical abstract

The figure shows the hypotheses of this study. H4b was not supported, while the other hypotheses were supported.

Public summary

■ First, this study explores the relationship between social media use (SMU) and innovation based on the perspective of resources, enriching SMU and employee innovation literature.

■ Second, by focusing on the relationships among SMU, work engagement, and innovation performance, this study offers insights into the intrinsic mechanism by which SMU affects employee innovation according to conservation of resources theory.

■ Third, considering the moderating effect of employee traditionality based on social cognitive theory, this study enriches the knowledge of how traditionality, as a boundary condition, influences the impacts of SMU.

Social media use and employee innovation performance: The roles of work engagement and traditionality

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Abstract: Since social media increasingly infiltrates the workplace, it may affect employee innovation. However, how social media use (SMU) affects employee innovation performance remains controversial. Therefore, this study explores the underlying mechanisms and boundary conditions in the relationship between SMU and employee innovation performance. The research model was tested through a survey of 221 Chinese employees. The results show that SMU is positively related to employee innovation performance, with work engagement acting as a mediator in this relationship. Employee traditionality positively moderates the positive impact of work-related SMU on work engagement, while traditionality has no moderating effect on the relationship between social-related SMU and work engagement. This study focuses on the relationship between SMU and innovation performance based on conservation of resources theory, offering insights into the intrinsic mechanism by which SMU affects employee innovation. Furthermore, this study considers the moderating effect of employee traditionality based on social cognitive theory, enriching the knowledge of how traditionality influences the impacts of SMU. This study has theoretical implications for future research and practical guidance for enterprises regarding the proper use of social media.

Keywords: social media use; employee traditionality; work engagement; employee innovation performance

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1   Introduction

Employee innovation, which refers to employees' generation and implementation of new ideas in their organizations, is a driving force that promotes organizational development[1]. Putting forward and implementing new ideas requires employees to have rich knowledge and professional skills[2]. Organizations have been applying information and communication technologies with the expectation of helping employees accumulate knowledge for innovation[3]. In recent decades, social media has widely crept into the workplace as a common communication tool among employees worldwide[4, 5]. For example, WeChat, QQ, and DingTalk are widely used as communication tools in China, while Meta and Twitter (now referred to as X) are widely used in Western countries. Social media use (SMU) refers to employees using social media to post updates on work projects, share work-related information with their colleagues, make friends in their organizations, and establish social connections with their colleagues[6]. Using social media enables employees to obtain rich resources, including work information and social support[7], which may inspire employees to become involved in their work and contribute to their innovation. Although some researchers have suggested that SMU can provide new ideas and benefit employee creativity, others believe that SMU can reduce creativity by exacerbating interruption overload and psychological transition[3, 8]. These controversial results stem

from the fact that the intrinsic mechanisms and boundary conditions of how SMU affects employee creativity theoretically have not been studied in depth. Therefore, it is important and necessary to further examine how SMU affects employee innovation.

Previous studies have paid little attention to how different usages of social media affect innovation, which is an important research gap since there are different dimensions of SMU, and different dimensions might have distinct effects on innovation. Information systems researchers have recognized that there are two main uses of social media in the workplace: promoting work and maintaining relationships, and they have long divided SMU into work- and social-related SMU according to their different usages[9–12]. These two kinds of SMU have different meanings and impacts on work outcomes[13], which shows the importance of separating these two types of SMU to explore their different effects on innovation. Work-related SMU refers to employees' use of social media to obtain and share work-related information[13], which enables them to receive work-related information for innovation. Social-related SMU refers to using social media to obtain and share social-related information, which helps employees build and maintain relationships in organizations[13], provides them with a sense of warmth and belonging[10], and reduces their concerns about innovation failure. Since little research has focused on the effects of different SMU on innovation, this

study aims to illustrate how work- and social-related SMU affect employee innovation.

The intrinsic mechanisms through which SMU affects innovation still need to be studied. The basic tenet of conservation of resources (COR) theory is that individuals tend to protect their current resources (conservation of resources) and gain new resources (acquisition of resources)[14, 15]. According to COR theory, individuals tend to make full use of current resources to avoid resource loss and make every effort to gain new resources[16]. In the workplace, employees utilize received work resources and social resources from SMU, devoting time and energy to work to avoid resource loss[17]. Such devotion to work enables employees to obtain new information and social support, which makes them highly expected to gain future resources[16]. Hence, employees are likely to make full use of various resources, which is beneficial for generating and implementing creative ideas[18]. However, although COR theory could be a powerful theory for clarifying the effects of SMU on employee innovation, few studies have revealed the relationship between SMU and employee innovation from the perspective of the conservation of resources. From the above discussion, this study infers that SMU affects innovation performance by promoting work engagement, which refers to employees' positive states toward work[19]. Therefore, the first goal of this study is to explore the mediating role of work engagement in the relationship between SMU and innovation performance.

Furthermore, differences in personal values greatly affect individuals' attitudes toward technology use[20]. Traditionality is an important personal value of Chinese people[1] and refers to the thoughts and behaviors formed by individuals under the influence of traditional Chinese culture. Traditionality emphasizes hierarchical relationships, such that employees with high traditionality align more with their perceived social roles than with their own attitudes and feelings[1]. In the workplace, employees' perceived social roles are their organizational roles as organizational members[1]. The attitudes and behaviors of high traditionalists are governed more by the expectations, responsibilities, and obligations associated with their organizational roles than by their personal roles[21]. According to social cognitive theory, individuals' behavior is determined by the interaction of situational and personal factors[22]. Previous research using this theory indicates that personal values affect how an individual interprets the social environment[23]. Employees with a high level of traditionality may pay more attention to their organizational roles than personal roles[1]. Based on their organizational roles, they prioritize work efficiency over personal matters. Therefore, according to social cognitive theory, employees with traditionality are more likely to use social media for work instead of for socialization in the workplace. Thus, work-related SMU may lead to higher levels of work engagement than social-related SMU for employees with high traditionality. Despite the possible boundary conditions of traditionality between SMU and work engagement, previous studies have paid little attention to the moderating effect of traditionality. Considering the possible influences of employee traditionality, the second goal of this study is to explore the moderating effects of traditionality on the relationship between SMU and work engagement.

The contributions of this study are as follows. First, this study explores the relationship between SMU and innovation based on COR theory, enriching SMU and employee innovation literature. Second, by focusing on the links among SMU, work engagement, and innovation performance, this study offers insights into the intrinsic mechanisms by which SMU affects employee innovation according to COR theory. Third, considering the moderating effects of employee traditionality based on social cognitive theory, this study enriches the knowledge of how traditionality, as a boundary condition, influences the impacts of SMU.

2 Theoretical background and literature review

2.1 SMU in the workplace

SMU in the workplace refers to employees' use of social media for communication and collaboration[5]. Previous studies have widely explored the antecedents of SMU, which mainly include individual factors, technical factors, and organizational factors. In terms of individual factors, personality and psychological state, such as the Big Five personality traits[24], self-efficacy[7], and individual psychological needs[25], affect SMU. Technological features, such as interactivity, cost effectiveness, and compatibility, also affect the adoption of SMU[26]. In terms of organizational factors, organizational commitment is identified as a predictor of SMU[27].

Previous studies have long focused on work- and social-related SMU as well as its consequences. In the workplace, employees mainly use social media for two purposes: promoting their work and maintaining relationships. Hence, previous studies have suggested that SMU can be divided into work- and social-related SMU[9, 12]. Distinguishing between work- and social-related SMU is necessary because they have different meanings and distinct effects on employees' attitudes and behavior as well as their work outcomes[9]. For example, a recent study has showed that work- and social-related SMU are both positively related to feedback inquiry, while social-related SMU is also positively related to feedback monitoring, indicating the different effects of work- and social-related SMU[6]. Furthermore, previous studies have shown an inverted U-shaped relationship between work-related SMU and information overload, while a U-shaped relationship exists between social-related SMU and information overload, indicating that work- and social-related SMU have different effects on information overload[13]. Considering these distinctions, this study divides SMU into work- and social-related SMU.

2.2 COR theory

The basic tenet of COR theory is that individuals tend to protect current resources and gain new resources[14, 15]. According to COR theory, individuals tend to maintain, protect, and build valuable resources, which include both tangible and intangible resources[28]. In organizations, resources can include knowledge, skills, time, and energy[29]. Moreover, COR theory posits that resources have two spiral effects: loss spiral and gain spiral effects[30]. The loss spiral means that a lack of

resources leads to a further lack of resources, whereas the gain spiral means that the acquisition of resources leads to further resource acquisition[17], showing that those with more resources can better access new resources[31]. Specifically, based on the gain spiral, individuals with abundant resources are more likely to obtain new resources and show a high level of work engagement.

COR theory provides valuable guidance for resource gain and loss in organizations[30]. From the perspective of resource gain, once employees obtain resources, they enhance their ability to obtain new resources by performing work engagement. For example, job resources lead to work engagement, which subsequently leads to personal initiative in the workplace[17]. From the perspective of resource loss, when employees have limited resources, based on the loss spiral, their ability to obtain resources is weak, and they show low work engagement and performance in their organizations[32].

2.3 Work engagement

Work engagement refers to employees' positive emotions and states related to work and includes three aspects, namely, vigor, dedication, and absorption[19]. Vigor means that individuals are energetic at work instead of easily feeling tired. Dedication implies that individuals have full enthusiasm for work and can devote themselves to their work. Absorption indicates that individuals are absorbed in their work and are pleasant when they are working[19, 33].

Previous research has explored the antecedents of work engagement from three perspectives: demographic characteristics, individual personalities, and organizational features. Regarding demographic characteristics, a survey of bank employees revealed an overall positive linear effect of age on work engagement[34]. A qualitative study in Jordan also revealed that women may have less opportunity to engage[35]. In terms of individual factors, personality traits, such as the proactive personality of employees, affect their work engagement[36, 37]. For organizational factors, leadership and leaders' work engagement affect employee work engagement[38]. The technical features of enterprises also affect employee work engagement[39]. For example, social media can increase work engagement by fostering organizational identification and social support. However, other studies suggest that SMU in the workplace can lead to disruption and procrastination, hence reducing work engagement[40].

Research on the consequences of work engagement mainly includes three aspects: the impacts on employee attitudes, employee performance, and behaviors and the impact on the team or organization[41]. In terms of employee attitudes, work engagement positively affects organizational commitment[42] but negatively affects turnover intention[12]. In terms of employee performance and behaviors, there is an inverted U-shaped relationship between work engagement and job performance[43]. Additionally, employees' work engagement is positively associated with voice behavior[44]. In terms of the impact on the team or organization, work engagement is conducive to promoting team innovation[45].

2.4 Employee traditionality

Traditionality is defined as a key characteristic of individuals'

attitudes and behavior under the influence of Chinese culture[46]. Specifically, traditionality emphasizes the concept of hierarchy under the influence of Confucian culture[1]. Farh et al.[47] introduced this concept to the organizational management field, emphasizing employees' concept of hierarchical relationships under the influence of Confucian culture. As proposed in the context of traditional Chinese culture, this construct is applicable only to the Chinese context. Chinese employees with high traditionality conform to social roles rather than to individual attitudes and thoughts, and they behave based on traditional values[48].

Employee traditionality, which is an important value, is often considered a boundary condition in the relationship between the working environment and employee behavior in the Chinese context[1]. Traditional employees tend to obey authority and maintain harmony in organizations, making this cultural value a crucial boundary condition for exploring the influence of the external environment on individual behavior or cognition[49]. For example, as employees with high traditionality tend to maintain harmony and silence, they are less likely to engage in employee voice[46]. Additionally, since employees with high traditionality are willing to stress hierarchy, they are unwilling to accept the humorous behavior of leaders[50]. Traditionality also moderates the relationship between servant leadership and family performance, such that this positive relationship is weaker when employees have higher traditionality since employees with high traditionality are less likely to utilize the resources made available by servant leaders[31].

3 Hypothesis development

3.1 SMU and work engagement

Work-related SMU enables employees to obtain support and resources at work in the following ways: exchanging information about work with colleagues through social media for information support[7], sharing knowledge with colleagues on social media to obtain knowledge and skills support, and posting updates about work projects to gain work support[51]. COR theory posits that one useful way to maintain existing resources is to invest resources[17] and make full use of resources[30]. Therefore, when employees obtain rich information and social resources from SMU, they are likely to make use of these resources in their work as a way to protect current resources and gain new resources[14]. Hence, they devote time and energy to using the acquired resources at work, resulting in a high level of work engagement[52]. Specifically, utilizing information and resources received from work-related SMU can help employees keep their existing resources from being lost[30]. Employees are then likely to engage in work to maintain work resources from work-related SMU. Therefore, employees who use social media for work are more likely to be enthusiastic about their work, showing a greater dedication of time and energy to maintaining resources. Thus, the following hypothesis is proposed:

H1a. Work-related SMU is positively related to work engagement.

In addition to work resources, employees cherish social

resources. Social-related SMU can help employees obtain social resources. For example, employees can engage in social interaction, make friends in the workplace, and join in social activities through SMU, which is beneficial for gaining social support and social resources[53]. According to COR, a good measure to maintain and protect resources is putting them into use[30]. With acquired social resources, employees tend to make the most use of social resources in their work to maintain existing resources[14]. As a result, they devote time and energy to their work, which leads to an increased level of work engagement. Furthermore, social-related SMU provides opportunities for employees to receive emotional support, encouragement, and recognition from their peers. The reduced psychological distance from their colleagues and the sense of harmony of the organizations create a supportive work environment, leading to higher levels of engagement and job satisfaction[54]. As a result, employees can increase their confidence in their work and devote themselves to it. Thus, the following hypothesis is proposed:

H1b. Social-related SMU is positively related to work engagement.

3.2 Mediating effects of work engagement

Employee innovation performance emphasizes that employees generate and implement their new ideas in their organizations[55]. This study proposes that SMU contributes to employee innovation by promoting work engagement for the following reasons. First, based on COR theory, initial resource gain yields future resource gain, creating the gain spiral[3]. When employees devote time and energy to work, they acquire rich resources, which makes them highly expect to gain future resources[17]. Hence, employees are likely to make use of various resources, which is beneficial for generating and implementing creative ideas[18]. Second, a high level of work engagement indicates that employees are interested in their own work, and this interest can promote exploration and innovation[56]. Third, employees who are highly engaged in their work usually have a sense of delight while working, and a positive mood can encourage employees to come up with creative ideas[57, 58]. Thus, the following hypothesis is proposed:

H2. Work engagement is positively related to employee innovation performance.

COR theory can explain how work engagement plays a mediating role in the relationship between the working environment and employee behavior[15]. According to COR theory, individuals tend to maintain existing resources, and individuals with more resources have a greater ability to gain new resources. Using social media for work enables employees to obtain wide and rich work-related information, share useful knowledge and skills[12], and achieve real-time and effective collaboration with their colleagues in a fragmented time, which provides them with abundant work support[7]. Through work-related SMU, employees learn details about the work and identify which working procedures and methods need to be improved[59]. Employees utilize what they obtain from work-related SMU to maintain existing work resources and prevent losses[30]. Furthermore, based on the gain spiral effect of COR theory, with the working knowledge and skills they gain from social media, employees have a better ability to

gain new resources. Therefore, they are involved in their work to gain more resources and make use of these resources to generate new ideas and innovate. Thus, the following hypothesis is proposed:

H3a. Work engagement plays a mediating role in the relationship between work-related SMU and employee innovation performance.

Social support that employees receive from social-related SMU reduces the perceived interpersonal risk and evaluation risk of innovation in organizations and increases the courage to innovate. According to COR theory, employees utilize social resources, such as courage and confidence gained from social-related SMU, to maintain resources[30]. Thus, social-related SMU encourages employees' involvement in work and motivates them to create and implement creative ideas. Additionally, from the perspective of the gain spiral, gaining social resources from social-related SMU in the workplace contributes to employees' ability to obtain new resources and promotes work engagement, which is beneficial for innovation. Thus, the following hypothesis is proposed:

H3b. Work engagement plays a mediating role in the relationship between social-related SMU and employee innovation performance.

3.3 Moderating effects of employee traditionality

Employee traditionality refers to the thoughts and values formed by individuals under the influence of traditional Chinese culture, which emphasizes hierarchical relationships[1]. In the workplace, employees with high traditionality are more aligned with expectations, responsibilities, and obligations according to their established organizational roles, and they are more likely to submit to authority[21]. According to social cognitive theory, individuals' values affect their attitudes toward the social environment; hence, traditionality, as an important value, might affect how employees perceive SMU[23]. Work-related SMU stresses the importance of using social media for work-related matters, while social-related SMU emphasizes making friends and organizing social events for developing personal relationships[9]. Specifically, employees with high traditionality focus on their organizational roles, believing that social media in the workplace is more expected to be used for work to enhance work efficiency rather than being used for personal socialization[7]. Thus, employees with high traditionality have a positive attitude toward work-related SMU, which is consistent with their traditional belief that employees should work hard for their organizations. Therefore, employees with traditionality are more likely to work when they use social media. In other words, the positive relationship between work-related SMU and work engagement is strengthened for employees with high traditionality.

In contrast, employees with low traditionality behave more according to their personal roles than according to their social obligations[1]. Employees with low traditionality do not believe that social media is inherently meant for discussing work. When they use social media for work, they are less likely to focus more on their organizational roles. Thus, compared with employees with low traditionality, there is a stronger positive relationship between work-related SMU and

work engagement for employees with high traditionality. Therefore, the following hypothesis is proposed:

H4a. The positive relationship between work-related SMU and work engagement will be strengthened by traditionality, such that the relationship will be more positive for employees with high levels of traditionality.

As mentioned above, in the workplace, employees with high traditionality believe that organizations expect them to use social media more for work than for personal socialization based on social cognitive theory[23, 60]. As a result, they believe that using social media to support social interaction in the workplace goes against organizational expectations[61]. Employees with high traditionality feel uncomfortable if they cannot focus on their responsibilities[61]. Therefore, when they use social media to socialize, they show less vigor and dedication to work. Thus, their work engagement will not increase.

In contrast, employees with low traditionality pay less attention to traditional norms[20]. They might be more oriented toward their personal roles[1]; hence, they perceive less inappropriateness of social-related SMU in harming work efficiency. The positive effect of social-related SMU on work engagement was not harmed. Therefore, the following hypothesis is proposed:

H4b. The positive relationship between social-related SMU and work engagement will be weakened by traditionality, such that the relationship will be less positive for employees with high levels of traditionality.

Fig. 1 is the research model.

4 Methodology

4.1 Procedures

Since this study aims to examine how SMU in the workplace affects employee attitudes and behavior, the target sample for this study was employees who used social media in the workplace. To test the hypotheses of the study, an online survey was conducted through a market research company in China. Participants who were employees and used social media during working hours were recruited on the online survey platform offered by the market research company. The data was collected by sending questionnaires to the sample offered by the company.

At the beginning of the questionnaire, participants were told that they did not have to provide their names and that there were no right or wrong answers to the questions, hence avoiding common method bias. During one week, 221 valid questionnaires were collected, for an effective rate of 81.25%. The demographic characteristics of the participants are presented in Table 1.

4.2 Measures

In this study, validated measures were adopted to test the constructs. Employee traditionality was measured with three items based on the scale adopted from Farh et al.[47], and a sample item was "the best way to avoid mistakes is to follow the instructions of senior persons". SMU was measured with six items in two dimensions, work- and social-related SMU, based on the scale adopted from Zhang et al.[12] A sample item of work-related SMU was "I use social media to post updates on work projects", while a sample item of social-related SMU was "I use social media to make friends in the organizations". Work engagement was measured with seven items based on the scale adopted from Schaufeli et al.[33], and a sample item was "I am immersed in my work". Employee innovation performance was measured with four items based on the scale adopted from Janssen[62], and a sample item was "I can create new ideas for difficult issues".

All items used a five-point Likert scale ranging from 1 to 5, strongly disagree to strongly agree. Gender, age, educational background, and the features of the company are also investigated in the survey.

5 Results

5.1 Common method bias

This study assessed common method bias in two ways. First, the Harman single-factor test was conducted. Five factors had eigenvalues greater than 1, and the total explanatory value reached 66.14%. Among them, the first construct accounted for 34.29%, which was less than 40%.

Second, a latent common method factor was included in the CFA. This study compared the original CFA with the new
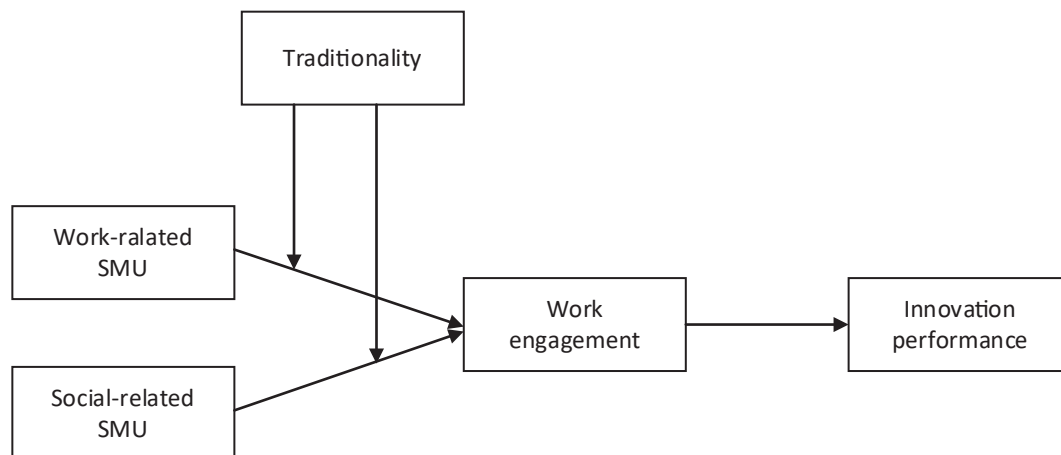

Fig. 1. Research model.

Table 1. Demographic characteristics.

Categories	Items	Percent
Gender	Male	27.6%
	Female	72.4%
Features of company	State-owned company	24.4%
	Private company	31.7%
	Collective company	1.4%
	Company of limited liability	22.2%
	Company limited of shares	12.7%
	Others	7.6%
Education	Precollege	1.4%
	College	11.3%
	Bachelor's	71.5%
	Master	14.0%
	Doctor	1.8%
Age	≤20	5.0%
	20–29	72.9%
	30–39	16.3%
	40–49	5.4%
	≥50	0.5%

CFA to assess common method variance. The results showed that ΔCFI = 0.019, ΔIFI = 0.021, ΔTLI = 0.007, and ΔRMSEA = 0.008, all of which were less than 0.05. Hence, this study had no common method bias.

5.2 Measurement of the model

This study used SPSS 22.0 and AMOS 23.0 to test the reliability and validity of the constructs. Results of reliability and validity analysis were pesented in Table 2. First, Cronbach's α and composite reliability (CR) were calculated to test the reliability of each construct. The Cronbach's α coefficient of each variable was between 0.74 and 0.90, all of which were greater than 0.7. The CR values ranged from 0.75 to 0.90, all above the benchmark of 0.70. The results indicated that the reliability of each construct was adequate. Second, the average variance extracted (AVE) was employed to test the convergent validity. The AVE values were all greater than 0.5, so the convergent validity was also adequate.

Third, as shown in Table 3, the square root of the AVE of each variable was greater than the correlation coefficient between variables. Therefore, the discriminative validity of the study was adequate. In summary, this study had adequate reliability, convergent validity, and discriminative validity.

5.3 Structural model

This study used SmartPLS 4.0 and SPSS 22.0 to test the hypotheses, as shown in Fig. 2. The results showed that work-related SMU was positively related to work engagement (β = 0.205, p < 0.01) and that social-related SMU was positively related to work engagement (β = 0.272, p < 0.01). H1a and H1b were supported.

As shown in the PLS results, work engagement was positively related to innovation performance (β = 0.632, p < 0.001). Bootstrapping was employed to test the mediating effect. The results, as shown in Table 4, showed that the 95% CI of the indirect effects did not contain 0 (BootLLCI$_{\text{WSMU}}$ = 0.1278, BootULCI$_{\text{WSMU}}$ = 0.3139; BootLLCI$_{\text{SSMU}}$ = 0.1392, BootULCI$_{\text{SSMU}}$ = 0.3255), confirming the mediating effect. Hence, H2, H3a, and H3b were supported.

The results indicated that traditionality moderated the relationship between work-related SMU and work engagement

Table 2. Results of reliability and validity analysis.

Construct	Loading	CR	Cronbach's α	AVE
Traditionality	0.64–0.79	0.76	0.76	0.52
Work-related SMU	0.66–0.75	0.75	0.74	0.50
Social-related SMU	0.66–0.77	0.75	0.76	0.51
Work engagement	0.63–0.82	0.90	0.90	0.56
Innovation performance	0.70–0.79	0.82	0.82	0.53

Table 3. Means, standard deviations, and correlations.

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Traditionality	2.78	0.88	**0.72**							
2. Work-related SMU	3.88	0.60	0.03	**0.71**						
3. Social-related SMU	3.94	0.62	−0.01	0.50**	**0.71**					
4. Work engagement	3.66	0.62	0.36**	0.34**	0.37**	**0.75**				
5. Innovation	3.71	0.64	0.25**	0.31**	0.33**	0.63**	**0.73**			
6. Gender	1.72	0.45	−0.26**	0.05	0.07	−0.08	−0.13	NA		
7. Age	2.24	0.65	0.32**	−0.01	0.06	0.24**	0.16*	−0.18*	NA	
8. Education	5.03	0.64	0.02	0.05	0.02	−0.07	0.04	−0.07	−0.15*	NA

The square root of AVE is on the diagonal; *p < 0.05, **p < 0.01.
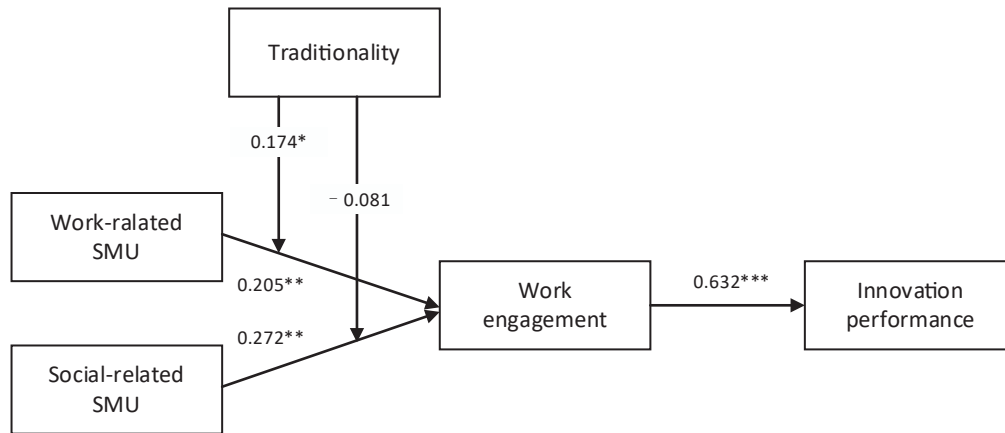
Fig. 2. PLS results.

Table 4. Bootstrap analysis for mediation.

Model	Indirect effects	SE	BootLLCI	BootULCI
WSMU-WE-EIP	0.2156	0.0470	0.1278	0.3139
SSMU-WE-EIP	0.2241	0.0470	0.1392	0.3255

WSMU means work-related SMU, SSMU means social-related SMU, WE means work engagement, and EIP means employee innovation performance.

($\beta = 0.174$, $p < 0.05$), supporting H4a. This hypothesis was further verified by the moderating effect figure. As shown in Fig. 3, the higher the employee traditionality level, the stronger the positive impact of work-related SMU on work engagement. The data also revealed that the interaction of social-related SMU and traditionality had no significant effect on work engagement ($\beta = -0.081$, $p > 0.05$), not supporting H4b.

6 Conclusions

6.1 Discussion

Given the debate about how SMU affects employee innovation[61], this study explores the underlying mechanisms and boundary conditions in the relationship between SMU and employee innovation performance. Based on a survey of 221 employees who use social media in their work, this study has the following important findings.

First, this study confirms that SMU has a positive impact on employee innovation performance. This study suggests

Fig. 3. Moderating effect of traditionality on the relationship between WSMU and work engagement.

that SMU provides employees with knowledge and skills support as well as social support. Employees tend to protect the resources obtained from SMU, leading them to actively engage in their work to avoid resource loss[63]. High levels of work engagement facilitate employees' access to internal and external resources through the gain spiral, creating opportunities for promoting employee innovation[17]. Consistent with previous studies, SMU can be beneficial to employee pro-organizational behavior[10]. However, this study illustrates the relationship between SMU and innovation based on the perspective of resources instead of other theories, such as social exchange and social identity[64], which provides new and interesting insights.

Second, this study reveals the mediating role of work engagement in the relationship between SMU and innovation performance. Drawing on COR theory, this study suggests that SMU affects innovation performance by enhancing work engagement. Specifically, SMU provides employees with work and social resources, which encourages employees to maintain existing resources and helps them enhance their ability to gain new resources. Consequently, employees engage in their work and innovate. This study views SMU as a work resource and explores the relationships among SMU, work engagement, and innovation performance based on COR theory. This study aligns with previous studies: According to COR theory, job resources can provide employees with a better ability to gain new resources, leading to greater performance[65]. In contrast to previous studies[40], this study indicates that, based on COR theory, SMU in the workplace can be beneficial rather than harmful to work engagement.

Third, the study posits that employee traditionality is a boundary condition of the relationship between work-related SMU and work engagement. Employees with traditionality follow authority and obey traditional social rules. According to social expectations, traditional employees have positive
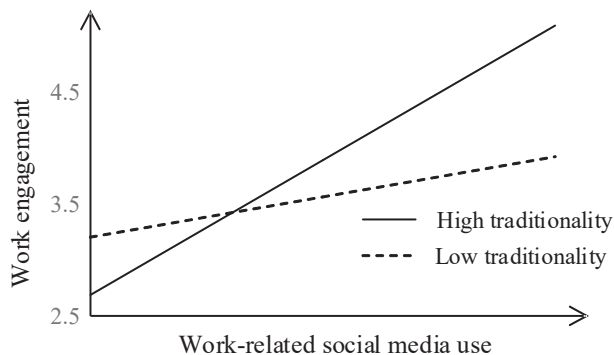
attitudes toward work-related SMU since social media is expected to be used for work in the workplace. However, employees with low traditionality are not so constrained by traditional rules and are less sensitive to work-related SMU. This study assumed that traditionality negatively moderates the impact of social-related SMU on work engagement because traditional employees may have negative attitudes when they use social media for socialization in the workplace. However, this hypothesis was not supported because employees with high traditionality are self-disciplined and are sensitive only to work and not to socialization. For employees with high traditionality, the impact of social-related SMU on work engagement is not significantly negative. These results are different from those of previous studies, which mostly highlight the negative impact of employee traditionality: The more traditional employees are, the less humor that leaders can use to promote employee voice behavior and creativity[50, 66], and the greater the likelihood that gossip will lead to bad behaviors[49]. This study suggests that values affect how employees use new technology, which calls for future research to investigate the impacts of employee differences on technology use.

6.2 Theoretical implications

This study has important theoretical implications for the current understanding of SMU in the workplace. First, this study indicates that SMU fosters employee innovation based on the perspective of resources. The results of this study indicate that SMU provides employees with rich resources, which promotes employees to become immersed in their work to avoid resource loss, consequently enhancing innovation performance based on the gain spiral. Although previous research shows that SMU may not be harmful, this study demonstrates that SMU can be beneficial to employee innovation performance from the perspective of resources.

Second, this study enriches the literature on SMU and expands the understanding of how SMU affects employee innovation. This study reveals that SMU positively influences innovation performance by promoting work engagement, which enhances the understanding of the mechanisms in the relationship between SMU and employee innovation performance. Although previous studies have explored the relationship between SMU and work outcomes[67–69], this study provides knowledge about this process based on COR theory. It posits that SMU provides resources, encourages the maintenance of resources, and promotes the gain spiral, ultimately enhancing innovation performance.

Third, the study reveals the moderating effect of traditionality on the relationship between SMU and work engagement based on social cognitive theory. According to social cognitive theory, personal values could be an important boundary condition between the social environment and employee behavior[23]. For employees with high traditionality, work-related SMU promotes work engagement, whereas social-related SMU does not. The results indicate that different employees have different views on how to use technology in the workplace. This finding inspires future research to investigate how employee values can work as boundary conditions of how technology use affects work outcomes. Future studies should consider employee values as boundary conditions of how technology use affects employee attitudes and behaviors.

6.3 Practical implications

This study has important practical implications for the current understanding of SMU in the workplace. First, enterprises are suggested to use social media for both work and socialization in the workplace since appropriate SMU is helpful in providing employees with wide work and social resources, which enhances their involvement in work and encourages creativity. In terms of specific SMU, managers could establish chat groups and encourage employees to share knowledge and information about work, as well as have conversations about work-related issues. Managers could also encourage employees to use social media to establish social events and make friends within companies for efficient socialization. Furthermore, managers should take the lead in using social media and chatting in the chat groups of enterprises to guide employees in the proper use of social media in the workplace.

Second, enterprises expecting a positive effect of SMU on innovation are suggested to pay attention to the important role of work engagement. This study verifies that work- and social-related SMU contribute to innovation by fostering work engagement, which highlights the mediating role of work engagement between SMU and employee innovation. According to COR theory, the best way to conserve resources is to make full use of them. To protect resources that employees obtain from using social media, enterprises should take actions to encourage work engagement in the workplace. For example, managers could set up work groups or communication areas on social media and build internal social networks to make it convenient for employees to share ideas, discuss issues, and interact with their colleagues online. Furthermore, knowledge-intensive enterprises can leverage the cloud storage functionality of social media to store work-related information accumulated on social media, enabling employees to search for and access it at any time. In addition, enterprises could design their own social media applications or platforms adapted to their organizational structures to facilitate employees' use of social media for work and socialization. In this way, employees can gain abundant resources from social media and become deeply involved in their work.

Third, this study inspires managers to pay attention to employees' differences in traditionality. This study shows that traditionality positively moderates the impact of work-related SMU on work engagement, suggesting that for employees with high traditionality, work-related SMU leads to an increased level of work engagement. Hence, managers could take measures to magnify the positive influence of SMU on engagement. For example, for employees with high traditionality, more work-related communication is encouraged. Specifically, managers could stimulate employees with high traditionality to participate in work group chatting, share work-related knowledge, and update their work progress. In this way, employees could put more effort into their work and show a high level of work engagement. Furthermore, for employees with low traditionality, managers could encourage a spirit of cooperation to make employees aware of their organizational roles as employees, hence magnifying the positive effects of using social media on work engagement.

6.4 Limitations and future research

First, questionnaires were collected only from employees in this study, with all the variables being evaluated by employees. Although single-source samples have been proven valid in research, future studies can adopt paired samples and ask leaders to evaluate their employees' behavior.

Second, based on COR theory, this study explores the mediation of work engagement. However, due to the complex social environment, many factors are affected by social media. Future studies are encouraged to explore more mechanisms through which SMU influences employee innovation.

Finally, this study verified the moderating effect of employee traditionality. However, many factors can be boundary conditions owing to the complex environment. Future studies can consider other factors, such as the organizational environment, as the boundary conditions between SMU and employee innovation.

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Conflict of interest

The authors declare that they have no conflict of interest.

Biographies

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