

# Impact of Social Media on Employee Innovation Performance: The Mediating Role of Knowledge Acquisition and Moderating Role of Status Hierarchy

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**Abstract.** From the perspective of Knowledge Acquisition(KA) and based on the communication visibility theory, this paper uses multi-level regression analysis to explore the impact mechanism of social media use on Employee Innovation Performance(EIP). The results show that both social media use of work-oriented (SMUWO) and social media use of social-oriented (SMUSO) positively affect employees' innovation performance. Both types of social media use play an intermediary role in KA and EIP. The status hierarchy can regulate the relationship between KA and EIP.

**Keywords:** Communication visibility theory; Social media use; Knowledge acquisition; Employee innovation performance; Status hierarchy

## 1 Introduction

The massive popularity of the Internet has promoted the widespread use of social media, which has gradually penetrated from daily life to the workplace and extended its use time from work to spare time. Social media is an Internet application platform that users use to create, exchange and share information<sup>[1]</sup>. Due to the development of social media platform technology and the convenient characteristics of use, people are more and more willing to apply social media in their life and work activities, such as Twitter, YouTube, Facebook, wechat, etc. There are two forms of social media use: work-oriented social media use and social-oriented social media use. Social media can be used for external communication and internal collaboration, and can realize work arrangement, information and knowledge exchange, social and personal information interaction, and play a role in strengthening interpersonal contact<sup>[2]</sup>. Research has shown that organizations can use social media as a platform tool for acquiring knowledge, and social media provides an environment where everyone should be booking profits from valuable knowledge exchange<sup>[3]</sup>. Social media enables people to obtain, share, store and integrate different knowledge across multiple sources of information on the Internet<sup>[1]</sup>. The breadth of external knowledge sources helps firms synthesize new knowledge useful for innovation and correlates with positive innovation performance<sup>[4]</sup>. People in the organization are often called upon to seek outside knowledge and technology and to optimize the organization's processes and the quality of the products it produces<sup>[5]</sup>. Arando(2020) collected data from the senior managers of the participating companies, show that management practices in human resource management,

such as performance-related rewards, training and learning, are important to facilitate knowledge acquisition (KA) and enhance employee innovation performance (EIP) [6]. Although many literatures have focused on the relationship between social media, KA and team innovation performance, the research results on the relationship between KA and EIP at the individual level from the perspective of social media are still lacking. However, individual innovation behavior and innovation activity performance are driven by their relationships and social networks [7]. Therefore, this paper introduces the variables of social media use to explore the relationship between KA and EIP from two dimensions of work-orientation and social-orientation

## 2 Theoretical and hypotheses

### 2.1 Theory of communication visibility

Communication visibility theory is used in the field of communication and media studies to analyze and explain how social media technologies change the way individuals and organizations understand tasks. Leonardi (2014) first proposed the theory of communication visibility to explain the action of social media, a new media tool, in status hierarchy control and emotional support [8]. The theory about communication visibility refers to the “meta-knowledge of information and knowledge” formed by “who knows what” and “who knows who”, including knowledge learning, utilization, creation, storage, sharing and evaluation of people and things [5].

### 2.2 Conceptual model and hypotheses

By the theory of communication visibility, the influence of Social Media Use of Work-Oriented (SMUWO) and Social Media Use of Social-Oriented (SMUSO) on EIP is discussed. This paper studies the effect of social media use on KA and absorption on EIP, and verifies the moderating effect of status hierarchy (SH) between KA and EIP.

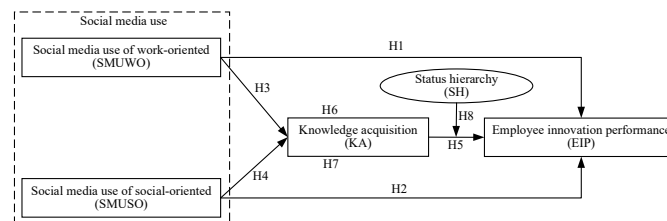


Figure 1. Proposed conceptual model

#### (1) Conceptual model

The conceptual model proposed in this study focuses on SMUWO and s SMUSO, KA, and IP. In addition, status hierarchy (SH) will serve as a moderator for the path between KA and EIP (see Figure 1). Social media use can be divided into two dimensions: SMUWO and SMUSO. SMUWO mainly carries out the exchange of internal work arrangement and knowledge, such as work plan arrangement, task management, task progress tracking. This type of platform has the characteristics of privacy, enterprise and formality [9]. SMUSO mainly refers to a social network application platform based on diversified interpersonal networks, which is an key platform to

promote knowledge exchange and sharing, and KA, and plays a positive role in promoting work communication, knowledge reserve and improving work performance<sup>[10]</sup>. KA is a dynamic process in which an organization identifies and expands required knowledge resources in order to maintain competitive advantage. It is the starting point of knowledge management and the basic activity of knowledge transformation and application, and the process of knowledge transformation is actually the process of knowledge creation. As an important part of knowledge management, KA is correlated with innovation and is generally the dependent variable of innovation<sup>[11]</sup>. KA has an key impact on knowledge stock and knowledge renewal, and plays an vital role in improving EIP. Employees in the organization are given status according to performance expectations. Performance expectation refers to the expectation of the organization or others on the future performance of the individual, which is mainly judged based on the past work performance or other characteristics of the employee, called "status characteristics". Once the status characteristics are selected, the SH of employees in the organization can be formed by ordering the feature attributes from large to small or from high to low<sup>[12]</sup>. In general, employees with higher status in the organization are more likely to embed favorable positions and occupy more resources, and their interactions with other individuals are also dominant<sup>[13]</sup>. The improvement of formal status will make employees in the organization have more choices, and their ability to control organizational resources will also be improved. Therefore, the pursuit of higher status in the organization is the desire of everyone<sup>[14]</sup>. The change of members' relative positions in the SH of group may lead to status conflict, which generally damages the team performance, if status conflict occurs in a team with low status consistency, members can clarify the hierarchical structure and obtain higher status consistency identification, which is conducive to performance<sup>[15]</sup>.

## (2) The impact of social media use on employee innovation performance

Social media creates conditions for the realization of transparent communication content and semi-transparent network relationship, thus affecting employee innovation performance. Using social media at work can provides a transparent and visible digital platform for the information and relationships exchange within the organization, and SMUWO can improve information transmission speed and information reuse rate, and improve vertical and horizontal communication among employees also<sup>[16]</sup>. Therefore, based on the visibility and connection of the identities of the two parties in the internal information communication, the emotional intensity of each other is enhanced and mutual trust is established, which can create a willingness to share information content, germination of creative ideas and insights, accelerate the innovation process, and thus improve the innovation performance. Therefore, it is found that employees' innovation performance not only depends on individual characteristics and organizational situation, but also is affected by the relationship network and information system they are embedded in. Discussion among participants in online social networks can enrich ideas and promote the process of knowledge innovation and knowledge exchange among participants. Borah(2022) studied the relationship between the use of social media and innovation capability, and the results showed that the use of social media can continuously improve the performance of enterprise under the mediating role of innovation capability<sup>[17]</sup>. SMUSO can break the communication restrictions of time and space, promote the collision of ideas and the generation of new ideas, thus improving the EIP. The accumulation of diversified relationships through social media can not only promote employees' access to and acquisition of different knowledge and viewpoints, but also generate new ideas and solutions more quickly, combine existing ideas

with new ideas, improve their ability to perform complex tasks with new methods, and improve the efficiency of problem solving. Thus enhancing innovation performance. The Social media use to establish a diversified interpersonal network can become the source and mechanism for employees to generate creative ideas, which is conducive to the optimization of EIP and organizational performance. Therefore, we propose:

H1: SMUWO has a positive impact on employee innovation performance.

H2: SMUSO has a positive impact on employee innovation performance.

### (3) The impact of social media use on Knowledge acquisition

As a communication channel, social media is regarded as an vital platform to promote knowledge exchange, knowledge communication and KA<sup>[18]</sup>. The theory of communication visibility holds that social media at work, as an Internet application for information transmission and communication among employees, creates conditions for the realization of communication information transparency and relationship network semi-transparency. Due to the visible characteristics of corporate social media information, knowledge requester is more aware of “who knows what kind of professional knowledge” and “who is familiar with employees who have certain professional knowledge”<sup>[5]</sup>. Therefore, the identity of knowledge exchanger, exchange content and knowledge interaction behavior are transparent. In this way, the employees of the knowledge provider will accept the knowledge request behavior of others as much as possible for the harmony between the individual and the organization, so as to facilitate the KA and knowledge transfer activities of the employees. Social media, based on social-oriented, provides a resource connection channel, promotes the connection between people and information, and enhances the strength of the relationship between users and the frequency of communication. Social-oriented social media applications empower individuals’ knowledge seeking activities, and new knowledge and ideas can flow through social media<sup>[19]</sup>. Social media based on social-oriented can help improve emotional connectivity, communication effectiveness and information access, so as to better promote KA among employees. Social media provides a way for knowledge seekers everywhere to ask or answer questions online in order to obtain interesting and useful knowledge<sup>[20]</sup>. Social media can increase structural capital, help individuals to easily understand, acquire and integrate knowledge, shorten the time and space distance between knowledge seekers and knowledge owners, and thus increase the frequency of knowledge exchange and the speed of knowledge transmission<sup>[21]</sup>. The work-oriented social media within the organization provides a visual platform for communication between employees, which will improve the accuracy of the original information and knowledge of users through the transparent message and the semi-transparent association mechanism of the network.<sup>[8]</sup> Based on this, we propose:

H3: Social media use of work-oriented has a positive effect on Knowledge acquisition.

H4: Social media use of social-oriented has a positive effect on Knowledge acquisition.

### (4) The mediating role of Knowledge acquisition

In according to acquiring new knowledge or restructuring existing knowledge structure, new ideas and creativity can be generated. Through the open innovation model, enterprises can obtain different knowledge from external collaborators, and integrate it into the internal knowledge of enterprises, improve the production and management process of enterprises, and

improve product quality<sup>[22]</sup>. Armando<sup>[6]</sup> evaluated the moderating relationship between KA and creation performance and human resource management, and found that KA has a positive impact on innovation performance. KA has become the important driving factors promote enterprise and EIP, and help enterprises to gain valuable external knowledge, Promote innovation. Therefore, we propose:

H5: Knowledge acquisition positively affects employee innovation performance.

Unlimited characteristics of social media in terms of time and space change the way the employees acquire knowledge interaction, allow it to both inside and outside the organization to efficiently carry out KA in the form of continuous activity, to save time and energy for subsequent innovation activities, and communication is helpful for people of different backgrounds and way of working, can prompt individuals to explore new knowledge, access to a variety of knowledge. Innovation at the individual level is the knowledge innovation achieved by obtaining corresponding complementary knowledge through interaction with individuals with different backgrounds, resources, knowledge and abilities in the process of social interaction. The knowledge resources acquired by individuals through social media affect their KA<sup>[23]</sup>. It is found that KA plays an important mediating role between the Social media use and the promotion of EIP. Online social platforms have an important impact on individual creativity and knowledge innovation<sup>[9]</sup>. Both SMUWO and SMUSO affect employee productivity, managers can guide employees to use social media correctly to improve employees' efficient sharing of work information and work efficiency<sup>[23]</sup>. Therefore, we propose:

H6: Knowledge acquisition plays a mediating role in the relationship between SMUWO and employee innovation performance.

H7: Knowledge acquisition plays a mediating role in the relationship between SMUSO and employee innovation performance.

People believe in hierarchies because they coordinate team interactions and create a good working atmosphere<sup>[24]</sup>, hierarchies facilitate and coordinate interactions among members, thereby increasing the efficiency of employees and teams. Halevy<sup>[24]</sup> argues that hierarchies are functionally adaptable and improve the chances of an organization's survival and development, and proposes a causal model of organizational hierarchies, processes, and performance<sup>[25]</sup>. Corporate managers with higher status hierarchy have more social capital and human capital, and more abundant KA channels and means, which can promote the development of innovation activities more effectively, and thus promote the improvement of innovation performance. The higher the level of the manager, the more clear is which part of the work is more conducive to generating innovation, so as to realize innovative activities more effectively. Therefore, status hierarchy not only affects team performance, but also has a moderating effect on EIP. Therefore, we propose:

H8: Status hierarchy moderates the relationship between Knowledge acquisition and employee innovation performance, and managers have a more significant moderating effect than grass-roots employees.

## **3 Methodology**

### **3.1 Research samples and procedures**

For ensure the research ability and scientificity in this research, the target study object of this study is enterprise employees who have used social media. Data were collected through a questionnaire survey. The survey objects were mainly ordinary employees and managers who had worked in enterprises in South China for more than one year. 450 questionnaires were given off, and 420 questionnaires were recovered within one month. After excluding the data that could not be matched, incomplete answers, obvious disorderly filling and logical contradiction, 371 effective questionnaires were obtained (effective recovery rate is 82.44%). After analyzing the data of 371 samples, the basic information of the survey samples is as follows: the proportion of gender types is 50.9% for male and 49.1% for female; Junior college or below accounted for 12.9%, university degree 59.6%, master degree or above accounted for 27.5%; 33.4% have worked for < 3 years, 17.0% for 3-5 years, 26.7% for 5-10 years, and 22.9% for >10 years. In terms of Status hierarchy, 53.4% of grass-roots employees and 46.6% of management employees (of which 30.5% are grass-roots managers, 19.4% are middle managers and 3.5% are senior managers).

### **3.2 Measurement of variables**

The measurement tools selected in the article are all from widely used scales. All scales used five-point Likert scale, 1="very inconsistent", and 5="very consistent". In order to avoid "centralization effect", which is easy to occur in Likert scale, this paper conducted strict discrimination during questionnaire screening, and excluded questionnaires with completely identical options and short answer time.

Social media scale: There are 5 items for SMUWO (eg. I use social media to set up groups to discuss information about work projects with colleagues) and 4 items for SMUSO (eg. I use social media to socialize with colleagues outside of work hours), and a value of 5 means the highest level of social use<sup>[26]</sup>. KA scale: There are 6 items for KA<sup>[27]</sup> (eg. Knowledge of technological development that can be obtained externally is substantial) for knowledge acquisition, and a value of 5 means the highest level of knowledge acquisition. Employee innovation Performance Scale: This scale covers many aspects such as employees' initiative to innovate ideas, practice of new ideas, and mobilization of colleagues to innovate, and is divided into 9 questions (eg. I will look for new working methods, techniques and tools ). A value of 5 means that employees have the highest level of EIP<sup>[28]</sup>. Control variables: Referring to previous studies, it can be found that employees' work performance, working years and educational level all affect their innovation performance.

### **3.3 Analysis Strategies**

Software Mplus7.0 and SPSS22.0 were used to analyze the data. Mplus7.0 was used to conduct confirmatory factor analysis on independent variables. SPSS22.0 and its macro program PROCESS were used for the descriptive statistics, deviation test, correlation analysis, and hypotheses testing, in which the maximum likelihood estimation method was used for parameter estimation. Bootstrap sampling times were 2000.

## 4 Procedures and research results

### 4.1 Procedures

#### (1) Reliability analysis

Cronbach's  $\alpha$  coefficient results of each scale were as follows: 0.882 (SMUWO), 0.850 (SMUSO), 0.800 (KA) and 0.944 (EIP) were all above the threshold value of 0.6, and  $\alpha$  values of each variable scale were within the range of 0.711 to 0.940 after deleting items, and were not higher than Cronbach's  $\alpha$  coefficient of their respective overall scales. This indicates that there is no need to eliminate scale items, and the CITC value of each variable scale item is within the range of 0.458 to 0.828, all of which are  $>0.4$  (threshold value), means that the correlation degree of each variable scale item is relatively high. Therefore, it can be concluded that the reliability of the four variables is relatively good.

#### (2) Validity analysis

The results showed that Cronbach's  $\alpha$  of each variable were all  $> 0.80$ , and the CITC values of items of each variable scale ranged from 0.458-0.828. This means that the correlation degree of items in each variable scale is high and the reliability of variables is good. The validity analysis of the samples mainly evaluated content validity, aggregation validity and discriminant validity. In order to test the aggregation validity of the four variable scales based on SMUWO, SMUSO, KA and EIP, MPLUS7.0 software was used to conduct confirmatory factor analysis. AVE and CR were used to carry out polymerization validity analysis, and the results showed that each fitting index reached the suggested critical standard, indicating a good fitting degree, as shown in Table 1. In order to explore whether the variables can be distinguished, MPLUS7.0 statistical software is used to verify the discriminative validity of four variables based on SMUWO, SMUSO, KA and EIP. Again using  $\chi^2/df$ , GFI, TLI, RMSEA, SRMR and so on to reflect the fitting degree of the variable scale. All indicators of the four-factor model are within the standard threshold, so the model is optimal according to Table 2.

**Table 1** Model fitting degree of each variable scale

Variable	AVE	CR	$\chi^2$	$df$	$\chi^2/df$	CFI	TLI	RMSEA	SRMR
SMUWO	0.658	0.902	11.955	10	1.195	0.992	0.980	0.073	0.017
SMUSO	0.681	0.942	2.363	2	1.181	0.990	0.981	0.042	0.013
KA	0.526	0.857	5.246	2	2.623	0.975	0.926	0.073	0.026
EIP	0.593	0.977	79.806	27	4.690	0.979	0.968	0.079	0.022

#### (3) Descriptive statistical results

The coefficients of the correlation analysis have been calculated and described as follows: SMUWO were significantly positively correlated with KA ( $r=0.415^{**}$ ,  $p<0.01$ ) and EIP ( $r=0.525^{**}$ ,  $p<0.01$ ); SMUSO were significantly positively correlated with KA ( $r=0.425^{**}$ ,  $p<0.01$ ) and EIP ( $r=0.532^{**}$ ,  $p<0.01$ ). There were a significant positive correlation between SH and EIP ( $r=0.187^{**}$ ,  $p<0.01$ ), and a significant positive correlation between KA and EIP ( $r=0.635^{**}$ ,  $p<0.01$ ).

The results of the above descriptive statistical analysis are consistent with the theory proposed in this paper, which can be followed by hypothesis testing.

#### (4) Common method deviation test

For test the homology bias of the data, the Harman one-factor test was used to test the common method bias of the measured results. The results showed that the variation explained by the unrotated first No.1 factor was 37.695%, < 40%(the critical value), indicating that no serious common method bias in this case, which could be further studied.

**Table 2** Model fit statistics for measurement models

Model	Chi-square	df	Chi square/df	GFI	TLI	RMSEA	SRMR
Single-factor model	1885.690	209	9.022	0.698	0.666	0.147	0.103
Two-factor model	1084.105	208	5.212	0.842	0.825	0.107	0.061
Three-factor model	861.891	206	4.184	0.882	0.867	0.093	0.053
Four-factor model	591.170	203	2.912	0.930	0.920	0.072	0.045

Note: Single -factor: SMUSO+SMUWO+KA+EIP; Two-factor:SMUSO + SMUWO; KA+EIP;Three-factor: SMUSO; SMUWO+KA; EIP; Four-factor: SMUSO;SMUWO;KA;EIP

#### (5) Correlation analysis

The values of the mean, standard deviation (SD) and correlation coefficients involved in the control variables and assumptions are as follows (see Table 3): (1) From the perspective of mean value of research variables, the mean values of SMUWO, SMUSO, KA and EIP were 3.806 (SD: 0.841), 3.813 (SD: 0.829), 4.022 (SD: 0.571) and 3.843 (SD: 0.652), which indicates that the evaluation of the study variables is good. (2) The correlation coefficient between variables was within the range of (-0.139-0.635), <0.75(the critical value), that is, there is no multivariate linearity problem between variables. (3) From the correlation of study variables, SMUWO were significantly positively correlated with KA ( $r=0.415^{**}$ ,  $p<0.01$ ) and EIP ( $r=0.525^{**}$ ,  $p<0.01$ ). SMUSO were significantly positively correlated with KA ( $r=0.425^{**}$ ,  $p<0.01$ ) and EIP ( $r=0.532^{**}$ ,  $p<0.01$ ). EIP was significantly positively correlated with Status hierarchy ( $r=0.187^{**}$ ,  $p<0.01$ ), and KA was significantly positively correlated with EIP ( $r=0.635^{**}$ ,  $p<0.01$ ). The above data verified the hypothesis of this study.

**Table 3** Means, standard deviations, and correlations

Variable	Mean	S.D.	1	2	3	4	5	6	7	8
1.Gender	1.491	0.501	1							
2.Education	2.146	0.620	0.004	1						
3.Working years	2.391	1.170	-0.139**	-0.034	1					
4.Job type	1.534	0.500	-0.174**	0.01	0.521**	1				
5.MUWO	3.806	0.841	0.100	0.011	-0.025	0.014	1			
6.SMUSO	3.813	0.829	0.108*	0.049	0.006	0.071	0.635**	1		
7.KA	4.022	0.571	0.044	0.037	0.128*	0.093	0.415**	0.425**	1	
8.EIP	3.843	0.652	-0.037	0.041	0.134**	0.187**	0.525**	0.532**	0.635**	1

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## 4.2 Test of hypotheses

### (1) Social media use and knowledge acquisition test employees' innovation performance

In order to test the effects of SMUWO, SMUSO and KA on employees' innovation performance, this study conducted multi-layer linear regression analysis on employees' innovation performance using control variables and polynomial regression terms (see Table 4). No.1 Model



is the basic model, including three control variables such as gender type, education level and working years. Independent variable SMUWO was added to No.2 model , independent variable SMUSO was added to No.3 model , and independent variable KA was added to No.4 model .

It can be found from No.2 Model and No.3 Model that both SMUWO and SMUSO have a significant positive impact on EIP (Coef of SMUWO=0.415\*\*\* , Coef of SMUSO=0.424\*\*\*) from Table 4. Therefore, hypothesis 1 and 2 were verified. No.4 Model shows that KA has a significant positive impact on EIP (Coef of KA=0.721\*\*\*). Therefore, hypothesis 5 is verified.

**Table 4.** Multi-layer linear regression: The influence coeff. of SMUWO, SMUSO and KA on EIP

	EIP							
	No.1 Model		No.2 Model		No.3 Model		No.4 Model	
	Coef	VIF	Coef	VIF	Coef	VIF	Coef	VIF
Gender	0.024	1.029	0.092	1.030	0.102	1.032	0.076	1.024
Education	0.048	1.001	0.042	1.002	0.02	1.004	0.021	1.003
Working years	0.074	1.021	0.077**	1.022	0.067**	1.024	0.026	1.039
SMUWO			0.415***	1.010				
SMUSO					0.424***	1.015		
KA							0.721***	1.022
<i>F</i>	2.549		39.996**		40.449***		63.596***	
<i>R</i> <sup>2</sup>	0.020		0.304		0.307		0.410	
$\Delta R^2$	-		0.284		0.287		0.390	

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## (2) Test of knowledge acquisition by social media use

For test the effect of SMUWO and SMUSO on employee KA, multi-layer linear regression analysis is conducted on employee KA with control variables and polynomial regression term (see Table 5). The results of No.2 model show that SMUWO has a significantly positive impact on KA, hypothesis 3 is verified. The results of No.3 model indicated that SMUSO has a significantly positive impact on KA, hypothesis 4 is supported.

**Table 5.** Multi-layer linear regression: The influence coefficient of SMUWO and SMUSO on KA

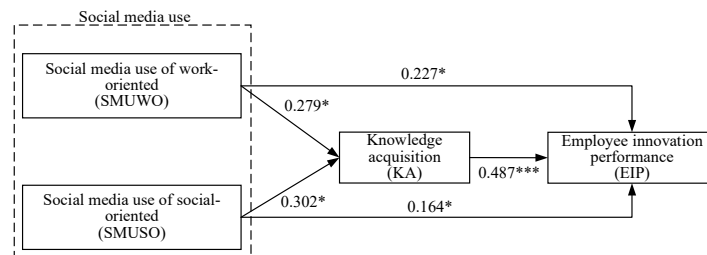
	Knowledge Acquisition					
	No.1 Model		No.2 Model		No.3 Model	
	Coefficient	VIF	Coefficient	VIF	Coefficient	VIF
Gender	0.072	1.029	0.026	1.030	0.019	1.032
Education	0.038	1.001	0.034	1.002	0.019	1.004
Working years	0.067**	1.021	0.069**	1.022	0.062**	1.024
SMUWO			0.282***	1.010		
SMUSO					0.290***	1.015
<i>F</i>	2.739		21.872**		22.377***	
<i>R</i> <sup>2</sup>	0.022		0.193		0.197	
$\Delta R^2$	-		0.171		0.175	

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

### (3) Testing the mediating role of knowledge acquisition

The testing steps are as follows: The fitting effect of sample data and model is determined,  $\chi^2/df = 2.977$ ,  $GFI=0.926$ ,  $TLI=0.916$ ,  $RMSEA=0.074$ ,  $SRMR=0.046$ , all the indexes met the requirements, indicating that the mediation model fit well, and the results obtained were highly reliable. Indirect path 1 (SMUWO  $\rightarrow$  KA  $\rightarrow$  EIP) was significant, with a mediating effect value of 0.136 (Effect)<sub>1</sub>=0.136\*,  $p < 0.05$ ); when the mediating variable KA was controlled, the direct Effect 1 (SMUWO  $\rightarrow$  EIP) was still significant, and the direct Effect value was 0.227 (Effect)<sub>1</sub>=0.227\*,  $p < 0.05$ ). The total effect value of SMUWO on EIP was 0.363, and the proportion of direct effect path effect and indirect effect path effect was 62.53% and 37.93%, respectively. That is, KA was the mediating effect of SMUWO on EIP. Further parametric Bootstrap test showed that SMUWO had a significant indirect effect on EIP through KA ( $\beta=0.136^{***}$ ,  $p < 0.001$ ), with 95% confidence interval [0.108, 0.222]. Therefore, KA plays a mediating role between SMUWO and EIP. Hypothesis 6 is supported.

Similarly, indirect path 2 (SMUSO  $\rightarrow$  KA  $\rightarrow$  EIP) was significant, with a mediating effect value of 0.147\* ( $p < 0.05$ ); when the mediating variable KA was controlled, the direct Effect 2 (SMUSO  $\rightarrow$  EIP) was still significant, and the direct Effect value was 0.164 (Effect)<sub>2</sub>=0.164\*,  $p < 0.05$ ). The total effect of SMUSO on EIP was 0.311, and the proportion of direct effect path effect and indirect effect path effect was 52.73% and 47.27%, respectively. The Bootstrap method was further used to test that the indirect effect of SMUSO on EIP through KA was significant. Therefore, KA plays a mediating role in the relationship between SMUSO and EIP. Hypothesis 7 is supported. Figure 2 shows the path coefficient value of this research model.



**Figure 2.** Standardization coefficient of mediation model

### (4) Test of the moderating effect of status hierarchy between KA and EIP

**Table 6** Test of the moderating effect of status hierarchy on KA and EIP

		EIP			
		Grassroots staff		Management staff	
		No.1 Model	No.2 Model	No.3 Model	No.4 Model
Control variables	Gender type	0.017	0.005	0.059	0.144*
	Degree level	0.045	0.004	0.029	0.023
	Working year	0.037	0.062	0.096*	0.044
Knowledge acquisition			0.636***		0.773***
<i>F</i>		2.549	18.083***	1.497	49.629***
<i>R</i> <sup>2</sup>		0.007	0.301	0.023	0.507
$\Delta R^2$		-	0.294	-	0.484

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

The status hierarchy is divided into two groups of basic staff and management staff for hierarchical regression (see Table 6). The control variables of education level, gender and working years were added to the regression equations of No.1 Model and No.3 Model. For the group of basic staff, KA was added to No.1 model to form No.2 model, and the explanatory power of its variance was increased by 29.4%, and the correlation coefficient between KA and EIP is 0.636\*\*\* (p <0.001). Similarly, for the group of management staff, when KA is added to No.3 model to form No.4 model, its variance interpretation ability is increased by 48.4%, and the correlation coefficient between KA and EIP is 0.773\*\*\* (p <0.001). In conclusion, the variance explanation ability of KA to innovation performance of managerial employees is significantly higher than that of grass-roots employees. Similarly, the correlation coefficient between KA and innovation performance of managerial employees is larger than that of grass-roots employees. It is concluded that there is indeed a moderating effect of status hierarchy in the process of KA affecting EIP. Therefore, hypothesis 8 is valid.

## 5 Conclusion

This study emphasizes the impact of the Social media use from the perspective of employees on work results. The moderating relationship between KA and EIP is discussed and verified. The important conclusions of the article are obtained:

Utilizing the communication visibility theory and employing multi-level regression analysis, the study investigates the impact mechanisms of work-oriented and social-oriented social media use on innovation performance. The results reveal positive effects on innovation performance, with both types of social media use acting as intermediaries in knowledge acquisition. Furthermore, the study identifies the moderating role of status hierarchy in the relationship between KA and EIP. The research results of this paper fill the gap in the theory of the positive effect of social media use on KA to improve EIP.

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