



# The Effect of Perceived Organisational Digital Support on Employees' Innovative Behaviour

Guiqing Li<sup>a\*</sup>, Huiwen Chen<sup>b</sup>, Jiahao Zhu<sup>c</sup>

School of Management, Chengdu University of Information Engineering,  
Chengdu, 610103, China

<sup>a\*</sup>2001011@163.com, <sup>b</sup>2873104538@qq.com  
<sup>c</sup>824587244@qq.com

**Abstract.** In the era of digital economy, the innovative behaviour of employees is crucial to the sustainability of enterprises. In order to further enrich the research results on employees' innovative behaviour, this study analyses and validates the relationship between the sense of organisational digital support, organisational learning climate, individual learning ability and employees' innovative behaviour from the perspective of the sense of organisational support, based on the 510 questionnaires collected. The results of the study show that the sense of organisational digital support can promote employees' innovative behaviours, and individual learning ability plays a partially mediating role between the two. In addition, the organisational learning climate can modulate the impact of the sense of organisational digital support on individual learning ability, which in turn moderates the mediating effect of individual learning ability.

**Keywords:** sense of organisational digital support, individual learning ability, employee innovative behaviour, organisational learning climate.

## 1 Introduction

Digital transformation is an important historical process in which the industrial economy has shifted to a digital economy, and the Outline of the Fourteenth Five-Year Plan explicitly proposes to promote industrial digitisation and to implement the 'Cloud, Digital and Empowerment' initiative. In this context, many organisations are willing to transform, but many are caught in the difficult situation of transformation. In the digital era, how to use digital technology to achieve a balance between organisational benefits and employee experience is a challenge that organisations need to address. In this regard, understanding how employees feel about the digital transformation of an organisation and dissecting its impact on employee attitudes and behaviours is the first step to solving the puzzle. In the period of digital transformation, more and more organisations have started to strengthen their own digital construction, but some organisations have not even fully considered employees' emotions and work experience in digital transformation. Therefore, it is of great practical importance to study the sense of organisational support in the digital era. In addition, the accelerated speed of knowledge

© The Author(s) 2024

Y. K. Wong Eric et al. (eds.), *Proceedings of the 2024 4th International Conference on Business Administration and Data Science (BADs 2024)*, Advances in Computer Science Research 119,

[https://doi.org/10.2991/978-94-6463-632-1\\_11](https://doi.org/10.2991/978-94-6463-632-1_11)

flow and shortened product life cycle brought about by digitalisation have put forward higher requirements on employees' learning and innovation ability, and employee innovation will be directly related to the survival and development of organisations. In summary, this study intends to start from the sense of organisational digital support and explore its relationship with individual learning ability, employee innovation behaviour, and organisational learning climate.

## **2 Theory and Hypotheses Development**

### **2.1 Sense of Organisational Digital Support and Employees' Innovative Behaviour**

Only when employees perceive that the organisation is willing to provide them with work support and bring certain rewards will they take the initiative to try to innovate. According to the social demand theory, According to the Social Demand Theory, innovative work is risky and employees engaged in innovative work usually face pressures from both inside and outside the organisation. A series of studies by Xu H et al have shown that a sense of organisational support enables employees to feel encouraged by the organisation, respect and rewards, and thus show stronger innovativeness, and these innovation supports include emotional support, instrumental support, and interpersonal support[1], etc..Mumford et al pointed out that only when employees perceive and accept the organisation's creativity support, work support, and social support, they will have the motivation and initiative to engage in creative affairs[2]. T This study argues that organisational digital support provides employees with institutional support for their work, the technical support they need to get their work done, interpersonal support from supervisors and colleagues, and that employees with high perceptions of organisational digital support show more innovative behaviours, this study proposes the hypothesis:

H1: Sense of organisational digital support has a significant positive effect on employees' innovative behaviour.

### **2.2 Sense of Organisational Digital Support Has a Significant Positive Effect on Individual Learning Ability**

Most of the existing research suggests that a sense of organisational support stimulates employees' motivation and initiative to learn. William et al suggest that a sense of organisational support stimulates intrinsic motivation to learn, and that higher levels of organisational support promote the spontaneous emergence of learning behaviours, which include individual behaviours in which employees strive to learn in order to achieve organisational goals, and collective behaviours in which they actively help other co-workers to learn[3]. Self-validation theory also states that individuals tend to maintain pre-existing self-concepts and therefore engage in behaviours that are consistent with their self-perceptions. Wankin et al. state that employees with a strong sense of organisational support have a sense of belonging and value to the organisation and therefore develop positive work attitudes and adopt effective and productive

behaviours.[4]. In this regard, this study argues that, objectively, the digital transformation of organisations has led to a large degree of change in organisational structures, and employees are motivated to engage in continuous learning; subjectively, organisations provide employees with the conditions necessary for digital work, and in return employees will learn spontaneously and thus improve their personal learning capabilities. Based on the above analyses, this study proposes the hypothesis:

H2: Sense of organisational digital support has a significant positive effect on individual learning ability.

### **2.3 The Mediating Role of Individual Learning Ability**

Individual learning skills play a very crucial role in organisations' sense of digital support to promote employees' innovative behaviours. According to Rujie Qu et al, employees need to have the skills needed to do their jobs and related to innovation, and personal learning is an important way to master these skills[5]. Social cognitive theory points out that employees can achieve the growth of their own knowledge and skills through learning, which is the key to promoting the emergence of innovative behaviour of employees. Therefore, employees need to have sufficient knowledge to support their innovative behaviours, and employees with strong personal learning abilities tend to exhibit more innovative behaviours. At the same time, employees with a high sense of organisational digital support will improve their personal learning ability through communication and learning, and increase their own knowledge base, thus laying the foundation for individual innovation. Based on the above analyses, this study proposes the hypothesis:

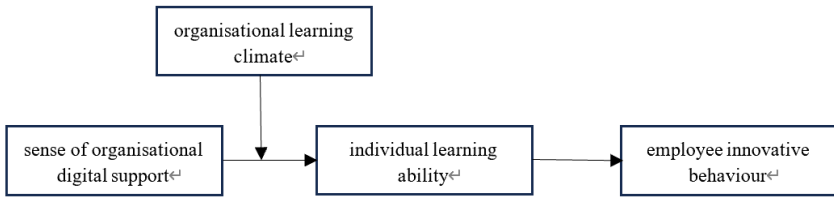
H3: Individual learning ability mediates the relationship between a sense of organisational digital support on employee innovation behaviour.

### **2.4 The Moderating Role of Organisational Learning Climate**

Although the sense of organisational digital support helps to improve employees' individual learning ability, this positive effect may vary in different organisational learning climates. Chen's study found that the organisational learning climate plays an important role in facilitating the acquisition of employees' working knowledge and skills, which not only provides employees with learning support and creates learning avenues and opportunities; it also promotes the formation of an open and trusting knowledge sharing atmosphere among organisational members improves employees' psychological security in knowledge sharing[6]. According to Mallon and Walto, signals of organisational learning support give important cues to employees to learn, and employees who lack organisational learning support find it difficult to engage in formal and structured learning activities[7]. It can be seen that in a high level of organisational learning atmosphere, the enthusiasm and willingness of employees to participate in learning can be enhanced and communication is more efficient, which will help employees to further improve their personal learning ability. this study proposes the hypothesis:

H4: Organisational learning climate positively moderates the effect of Sense of organisational digital support on individual learning ability.

The theoretical model of the study is shown in Figure 1.



**Fig. 1.** Theoretical Model of this Study.

### 3 Method

#### 3.1 Sample and Procedures

This study mainly adopts the method of questionnaire survey, and the subjects are mainly the staff of ByteDance, New Hope, Lenovo and other enterprises in digital transformation. A total of 566 questionnaires were returned, leaving 510 valid questionnaires. The specific distribution of the questionnaire is as follows: in terms of gender, 47.1 % are male and 52.9% are female; in terms of age, 57.5 % are between 21-30 years old, 39.4 % are between 31-40 years old, and 3.1 % are between 41-50 years old; in terms of education, 0.8 % are in senior high school or below, 9.4 % in junior college, 67.8% in bachelor's degree, 20.8 % in master's degree, and 1.2 % in doctorate; in terms of working years, 8.6 % are less than 1 year, 25.3 % are 1-3 years, 20.0 % are 3-5 years, 35.9 % are 5-10 years and 35.9 % are 5-10 years 1.2 %; in terms of years of experience, less than one year accounted for 8.6 %, 1-3 years for 25.3 %, 3-5 years for 20.0 %, 5-10 years for 35.9 %, and more than 10 years for 10.2 %; and in terms of position, ordinary employees accounted for 50.6 %, junior managers for 25.1 %, middle managers for 18.4 %, and senior managers for 5.9 %.

#### 3.2 Measures

The scales used in this study were all mature scales, selected with consideration of local Chinese cultural characteristics. all scales were rated on a LIKERT-5 scale from 1 (not at all compliant) to 5 (fully compliant).

**Sense of organisational digital support.** Drawing on Eisenebergeretal., Ling Wen wheel spokes, Chen Zhixia and Tang Hui's sense of organisational support scale, including four dimensions: sense of institutional digital support, sense of technological digital support, sense of supervisory digital support, and sense of colleague digital support.

**individual learning ability.** The individual Learning Competence Measurement Scale developed by Chen Guoquan was used, with nine measurement dimensions, such as 'discovery ability' and 'selection ability'.

Employee Innovation Behaviour. Employee Innovation Behaviour Measurement Scale of Huang Zhikai was used, with two measurement dimensions: 'Generation of Innovation Ideas' and 'Implementation of Innovation Ideas'.

Organisational learning climate. The DLOQ scale developed by Marsick and Watkins was used, of which the individual level Organisational Learning Climate scale was chosen as the measurement tool.

## 4 Results

### 4.1 Reliability Testing

The study was statistically analysed using SPSS 25.0 and AMOS 23.0 software. The results of the Harman one-way test showed that the variance contribution of the first principal component was 36.197% and there was no serious common method bias problem. The VIF value of each variable is less than 3, and there is no serious multicollinearity problem. The alpha value of each main variable was greater than 0.9, indicating that the reliability of each scale was good. The KMO value of each scale was greater than 0.8, which passed the Bartlett's spherical test, and the structural validity of the questionnaire was good. The operational results of the validated factor analysis showed that the four-factor model fitted best:  $\chi^2/df=2.585$ ,  $RMSEA=0.079$ ,  $IFI=0.925$ ,  $CFI=0.924$ ,  $TLI=0.904$  and was better than the other models, which indicated that the discriminant validity between variables was good.

### 4.2 Descriptive Statistics

Table 1 shows the means, variances and correlation coefficients of the variables. Perceived organisational digital support was positively correlated with individual learning ability ( $r = 0.594$ ,  $p < 0.05$ ) and employee innovative behaviour ( $r = 0.582$ ,  $p < 0.1$ ). These results are consistent with, and provide preliminary support for our hypotheses.

**Table 1.** Means, Variance, and Correlations of the Variables.

Variable	M	SD	1	2	3	4
1. sense of organisational digital support	4.037	0.554	1			
2. individual learning ability	4.050	0.505	0.594**	1		
3. Employee Innovative Behaviour	3.859	0.643	0.582*	0.874**	1	
4. Organisational Learning Climate	4.062	0.568	0.774**	0.631**	0.630**	1

Note: \*\*\* denotes  $p < 0.001$ ; \*\* denotes  $p < 0.01$ ; \* denotes  $p < 0.05$ ,  $N=510$ , following table is the same

## 5 Hypotheses Testing

The results of the tests for direct and mediated effects are shown in Table 2. In Model 1, the sense of organisational digital support has a significant positive effect on individual learning ability ( $\beta=0.446$ ,  $p<0.001$ ), with a standardised regression coefficient of 0.490; in Model 2, the sense of organisational digital support has a significant positive effect on employee innovation behaviour ( $\beta=0.099$ ,  $p<0.01$ ), with a standardised regression coefficient of 0.085; and the individual learning ability has a significant positive effect on employee innovation behaviour has a significant positive effect ( $\beta=0.999$ ,  $p<0.001$ ), with a standardized regression coefficient of 0.785. thus, hypotheses H1 and H2 are verified.

**Table 2.** Tests for direct and mediating effects

variable	Modal1 individual learning capacity			Modal2 employee innovative behaviour		
	$\beta$	SE	t	$\beta$	SE	t
constant	1.268***	0.183	6.918	-0.589***	0.166	-3.551
sex	-0.007	0.033	-0.210	0.012	0.029	0.420
age	-0.030	0.039	-0.753	0.030	0.034	0.894
Educational level	0.158***	0.027	5.891	-0.016	0.024	-0.686
working experience	0.093***	0.021	4.464	-0.029	0.018	-1.567
Nature of organisation	0.017	0.015	1.120	-0.029*	0.013	-2.301
Job Title	0.133***	0.021	6.454	0.068***	0.019	3.651
Sense of organisational digital support	0.446***	0.031	14.384	0.099**	0.032	3.097
individual learning ability				0.999***	0.039	25.874
R <sup>2</sup>	0.524			0.781		
F	79.031***			222.795***		

The total, direct and mediating effects of the research model are shown in Table 3. It can be seen that the total effect between the sense of organisational digital support and employees' innovative behaviour is significant, with an effect value of 0.545; the direct effect is significant, with an effect value of 0.099; and the mediating effect is significant, with an effect value of 0.446. This indicates that the mediating effect of individual learning ability accounts for 81.83% of the total effect. Thus, hypothesis H3 was verified.

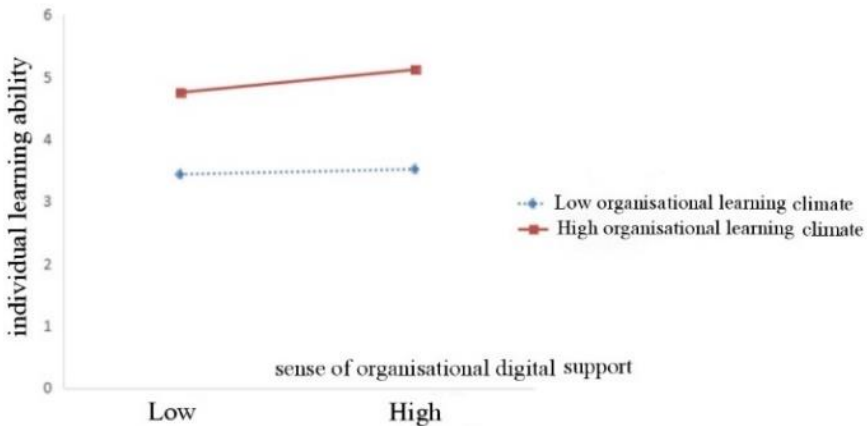
**Table 3.** Total, direct and mediating effects between sense of organisational digital support and employee innovative behaviour

effect	efficiency value	SE	t	p	BootLLCI	BootULCI
aggregate effect	0.545	0.041	13.288	0.000	0.464	0.625
direct effect	0.099	0.032	3.097	0.002	0.036	0.162
intermediary effect	0.446	0.054			0.346	0.560

The results of the moderating effect test of organisational learning climate are shown in Table 4. In Model 3, the interaction between the sense of organisational digital support and organisational learning climate reached the level of significance ( $\beta=0.323$ ,  $p<0.001$ ) on individual learning ability.

**Table 4.** Results of the moderated path analysis

variable	Modal3 individual learning capacity			Modal4 nempLOYEE innovative behaviour		
	$\beta$	SE	t	$\beta$	SE	t
constant	3.169***	0.115	27.457	-0.190	0.162	-1.172
sex	-0.014	0.030	-0.459	0.012	0.029	0.420
age	0.003	0.035	0.086	0.030	0.034	0.894
Educational level	0.135***	0.024	5.562	-0.016	0.024	-0.686
working experience	0.035	0.019	1.793	-0.029	0.018	-1.567
Nature of organisation	0.024	0.013	1.832	-0.029*	0.013	-2.301
Job Title	0.126***	0.019	6.694	0.068***	0.019	3.651
Sense of organisational digital support	0.303***	0.043	7.048	0.099**	0.032	3.097
Organisational Learning Climate	0.389***	0.043	9.029			
Sense of organisational digital support×Organisational Learning Climate	0.323***	0.036	8.899			
Individual learning capacity				0.999***	0.039	25.874
R2	0.619			0.781		
F	90.202***			222.795***		



**Fig. 2.** Moderating effect of organisational learning climate on the relationship

As can be seen from the slope of the straight line in Figure 2, the positive effect of the sense of organisational digital support on individual learning ability is stronger in a

high organisational learning climate than in a low organisational learning climate, indicating that the higher the level of the organisational learning climate, the stronger the effect of the sense of organisational digital support on individual learning ability will be, i.e., the organisational learning climate has a significant positive moderating effect between the sense of organisational digital support and individual learning ability. Thus, hypothesis H4 is verified.

## 6 Conclusion

The results of the empirical study show that the sense of organisational digital support not only directly predicts employees' innovative behaviours, but also influences employees' innovative behaviours through the mediating role of individual learning ability and is moderated by the moderating role of the organisational learning climate, once again proving the correctness of the organisational support theory.

A sense of enterprise digital support plays an important role for both employees and the organisation. It enables employees to make more effective use of digital tools and technologies to enhance productivity and innovation, while increasing their motivation to learn and career development opportunities. This sense of support also promotes communication and collaboration among employees, enhances team cohesion, and helps build a positive corporate culture that enhances employee satisfaction and loyalty. In conclusion, a sense of enterprise digital support is one of the key factors in the success of digital transformation, providing employees with the necessary resources and environment to better adapt to and drive the digitalisation process of the enterprise.

Although this study seeks to be scientifically rigorous, there are still some limitations due to the author's limited capacity and the constraints of external factors. Firstly, as this study focuses on the development of the Organisational Digital Support Scale, it does not take into account the impact of other factors in the organisation such as leadership style on employees' innovative behaviours, as well as other potential moderators or mediators, such as employees' personalities and organisational cultures, which could be investigated in greater depth in the future. Secondly this study was based on general considerations and was not subdivided according to different types of organisations, future research could explore the concept and dimensions of organisational sense of digital support specifically for a particular type of organisation. Finally, due to the author's time, energy and resource constraints, this study is cross-sectional data, which may have some impact on the inference of causality between variables, future research can collect data at different time points and fully the data interval of each variable.

## Fund Projects

Research on the Influence of the Behavioural Characteristics of Human-Machine Cooperation on the Human Resource Management System of Enterprises in the Era of Artificial Intelligence' (19BGL123), National Social Science Foundation of China.



## References

1. Xu H,Go P,Bao L. 2021. The impact of organisational innovation support on researchers' innovation behaviour - Chain mediation effects based on innovation self-efficacy, knowledge sharing. *J. Science and Technology Management Research*, 41(8): 275-286.
2. Mallon M, Walton S. 2015. Career and Learning: The ins and the outs of It. *J. Personnel Review*, 34(4): 468-487.
3. William R King, Peter V Marks J. 2008. Motivating Knowledge Sharing Through a Knowledge Management System. *J. Omega*, (36): 131-146.
4. Wang J,Zhou W,Zhang Y. 2021. The effect of challenge-hindering pressure on the work prosperity of corporate scientists: a moderated mediation model. *J. Science and Technology Management Research*, 41(09):115-121.
5. Rujie Qu et al. 2012. A Review of Leadership Influences on Employee Innovation. *J. Management Review*, 24(2):146-153.
6. Chen Q,Fan Y,Li C.2018. A Study of the Effect of Sense of Organisational Support on Employees' Innovative Behaviour. *J. East China Economic Management*, 32(2):43-50.
7. Mallon M, Walton S. 2015. Career and Learning: The ins and the outs of It. *J. Personnel Review*, 34(4): 468-487.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

