

# Research Hotspot and Frontier of Employee Performance in China: Citespace Measurement Visualization Analysis

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**Abstract:** Employee performance is the important basis of enterprise performance, is the key to promote the long-term development of enterprises. Based on the measurement and visualization analysis of 750 core papers of Chinese employee performance research, the research finds that: Chinese employee performance research paper on the whole presents a stage of characteristics. The function mechanism of employee performance, employee performance evaluation, performance pressure and employee behavior, and employee performance management and enterprise development are hot topics in the study of Chinese employee performance. Entrepreneurial performance will continue to become a study trend, the future can improve the analysis mechanism from the multi-discipline and multi-angle. To our country employee performance management in-depth research, help enterprise sustainable development.

**Keywords:** Employee performance, Performance management, Research hotspots and frontiers.

## 1. Introduction

Employee performance is the behavior of an individual as a member of an organization to fulfill the role requirements expected and specified by the organization, involving all behaviors related to organizational goals and contributions<sup>(1)</sup>, which is the basic source of enterprise performance. In recent years, in the study of strategic human resource management, the study of enterprise employee performance has been a concern. Scholars have always paid attention to the relationship between various types of human resource practices and employee performance, so as to optimize employee performance management, quickly and effectively improve the enterprise effect, and enhance the enterprise's long-term development ability<sup>(2)</sup>. As an important component of enterprise performance management, employee performance is closely related to employee behavior, organizational performance and human resource management practices. Therefore, employee performance management should be examined from the perspective of enterprise development. At present, there are comprehensive literature studies on staff performance, but there are no literature analysis of Chinese staff performance studies. By analyzing the core literature of domestic employee performance research, this paper used Citespace software to visualize the research status, research hotspots and frontiers of Chinese employee performance management, in order to help guide enterprise employee performance management, promote enterprise development to improve quality and efficiency.

## 2. Data Sources and Research Methods

### 2.1. Data sources

In order to ensure the authoritativeness and comprehensiveness of the analysis, CSSCI literature in the academic journal database of CNKI was selected to conduct literature search with the theme keyword of "employee

performance". The search time was May 20, 2022, and no search time interval was set. A total of 833 literatures were retrieved for the first time. After removing literature reviews, conference reviews, book reviews, and literature not related to the research topic, the remaining 750 papers were included in the period from 2000 to 2022. Based on this sample, the hot spots and frontiers of Chinese employee performance research are analyzed.

### 2.2. Research methods

Literature metrology analysis uses statistics and mathematics methods to analyze the quantity distribution, research structure and change law of literature, etc., and obtains the research hot spots and frontiers in this research field. Keywords, as the smallest unit to present the topic of literature, are an important starting point to analyze the core topics in the research field<sup>(3)</sup>. The study used CiteSpace.5.8.R3c as a document visualization tool to analyze the status quo of the research on the staff performance of our country by distributing the number of document, journal distribution, institutions and core authors, highly cited literature, research hotspots, research trend and research frontiers, etc. The key words analysis method is used to summarize the core themes of the research field, in order to provide reference for the future scholars in the research of employee performance management.

### 2.3. Overview of Employee Performance Research in China

### 2.4. Distribution of the number of documents

The quantity distribution of literature can intuitively see the degree of concern of the research topic and the overall research trend. According to the literature retrieval results, Chinese employee performance research papers on the whole show the stage characteristics of "bud-rise-fall". From 2000 to 2005, there were few published literatures, which was the primary period of research. From 2006 to 2017, research

attention increased significantly. The number of published papers in 2017 was the largest, accounting for about 8.4%; From 2018 to the present, research has fallen back slightly.

But on the whole, the research trend of employee performance is stable and the future research prospect is broad.

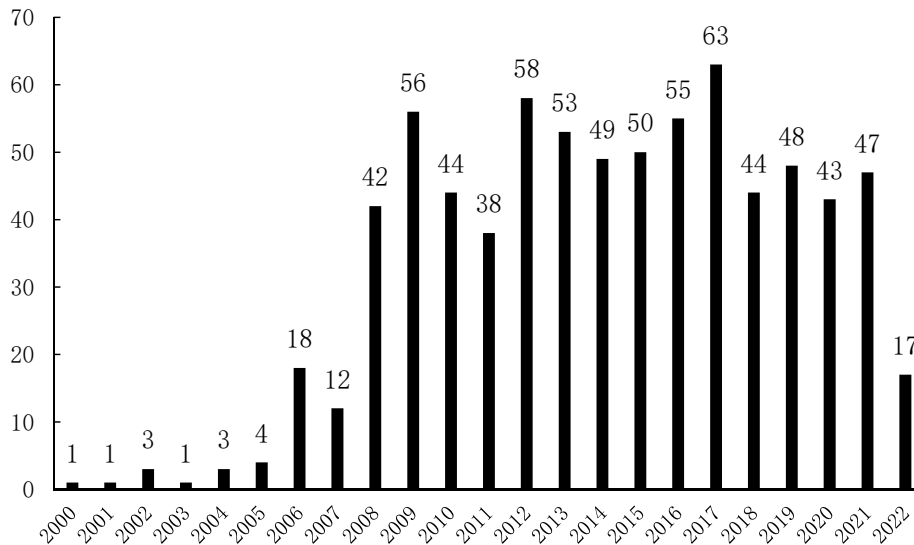


Figure 1. Distribution of literature numbers

## 2.5. Journal sources

The literatures on employee performance in China mainly come from management journals, and 70% of the top ten are published by management journals, including China Human Resource Development, Journal of Management, Management Review, Science and Technology Management Research, Economic Management, Science and Technology Management, Nankai Management Review. That is, most employee performance studies are analyzed from the perspective of enterprise management. From the perspective of individual journals, the total number of publications of Human Resource Development in China reached 50, ranking the first place. Journal of Management ranked second with 37 articles. Soft Science ranked third with 34 publications, with a slightly significant difference in the number of publications.

## 2.6. Core Institutions and Authors

The analysis of cooperation between core institutions and authors can reflect the connections and exchanges between institutions and authors in the research field. From the perspective of econometric visualization analysis, the institutions focusing on employee performance research mainly include the Business School of Central South University, the School of Economics and Management of Beijing University of Technology, the School of Economics and Management of Shandong University of Science and Technology, the School of Business of Nanjing University, the School of Business of Liaoning University, etc., which are mainly management colleges. Among them, the Business School of Central South University and the School of Economics and Management of Beijing University of Technology published the most papers, with 23 papers. However, the cooperation between the institutions is less, the research is relatively independent, and most of them are universities, and there is no specialized core research institution.

Price's theory specifies a minimum of  $M$  publications by core authors, where  $M=0.749\sqrt{N_{max}}$  and  $N_{max}$  is the

number of articles published by the author with the highest number of articles. Liao Jianqiao published the most articles on employee performance in China, with 13 published in total. According to this formula, the number of articles published by the core authors of Chinese employee performance research is 2.7, that is, the number of articles published by the core authors in this research field should be 3 or more. Among the core authors with high citation quantity, only 22 of them meet the requirements, and the core authors need to be expanded. Among the top authors, Liao Jianqiao from Huazhong University of Science and Technology, who focuses on organizational behavior and human resource management, topped the list with 13 publications. Zhang Jian, from the Dongling School of Economics and Management at the University of Science and Technology Beijing, has published 10 papers. His research interests include human resource management and organizational behavior. Yu Guilian, from the Business School of Jilin University, published 7 papers, focusing on human resource management; Yang Dongtao, from the Business School of Nanjing University, published 7 papers. His research direction is human resource management and operation management. Most of the core authors' research direction or major is related to human resource management, and there are few interdisciplinary and cross-field cooperation. As can be seen from the cooperation knowledge map, Density is 0.002, much less than 0.1, and the phenomenon of "large dispersion and small aggregation" is formed among authors. The core group connection has not yet formed, and the influence of authors' cooperation still has room for development.

From the perspective of the whole condition of research institutions and core authors, Chinese staff performance research has been gradually paid attention to, and a certain set of research has been formed in the field of management science, but there is still further development in cross-team, cross-disciplinary and cross-organization aspects, and Chinese staff performance research team needs to be expanded.

## 2.7. Highly cited literature

The highly cited literature of employee performance research is the literature with high influence in this research field. The Influence of Psychological Capital on Employees' work Performance, organizational commitment and organizational Citizenship Behavior, published by Zhong Lifeng in *Acta Psychologica Sinica* in 2007, has been cited 1077 times on CNKI, exploring the relationship between psychological capital, three positive psychological states of hope, optimism and tenacity and employees' work performance, organizational commitment and organizational citizenship behavior<sup>(4)</sup>. Wen Peng and Liao Jianqiao published "The Differential Influence of Different Types of Performance Appraisal on Employee Appraisal Response -- A Study from the Perspective of Appraisal Purpose", which divided performance appraisal into four types: transactional type, commitment type, cooperative type and disengaged type, and explored the differential influence of different types of performance appraisal on employee appraisal response, which has been cited 441 times on CNKI.com<sup>(5)</sup>. Sui Yang et al pointed out in the Influence of Transformational Leadership on Employee Performance and Satisfaction: The Mediating Role of Psychological Capital and the Moderating Role of Procedural Justice that the higher the perceived procedural justice, the stronger the role of transformational leadership on subordinates' work performance through psychological capital, which was cited 362 times<sup>(6)</sup>. In general, the literatures with high citations mostly use empirical research methods to explore the mechanism of action and evaluation of employee performance. Some papers emphasize the important influence of leadership behavior on employee performance, and some papers construct an evaluation model of employee performance, basically affirming that employee performance is of great significance to the long-term development of enterprises. Most highly cited literatures were published relatively earlier, which indicates that researchers are good at seizing hot spots and walking in the research frontier.

## 3. China's Employee Performance Research Hotspots

Research hotspots can be regarded as common topics that scholars in a certain research field pay more attention to. As the central point of literature, keywords are highly concise, and their occurrence frequency can directly show the importance of the research topic and reflect the hot content of the research field. Table 1 reflects the core keywords of Chinese employee performance research, including "job performance", "innovation performance", "task performance", "employee performance", "job engagement", "enterprise performance", etc. From the perspective of the occurrence frequency and centrality of keywords, existing researches mainly focus on the mechanism and evaluation of employee performance and performance management mode. Integrate organizational behavior and human resource management research, and ultimately focus on enterprise development. The main research topics are as follows:

### 3.1. Employee performance mechanism

Employee performance refers to the behavior that employees interact with others and finally jointly achieve organizational goals through their efforts to complete the goals within their responsibilities<sup>(7)</sup>. The research believes

that work results are influenced by many internal and external factors besides employees' own efforts. These factors are indispensable but cannot be changed by employees. External factors include leadership style<sup>(8)</sup>, colleague behavior<sup>(9)</sup>, company system<sup>(10)</sup>, and internal factors include employee emotion<sup>(11)</sup>, employee initiative<sup>(12)</sup>, employee identity perception<sup>(13)</sup>, etc. The research focuses on how to grasp the internal and external factors that affect employee performance so as to explore the dynamic mechanism to improve employee performance. Through in-depth analysis of the mechanism of employee performance, the long-term development of enterprises can be promoted.

### 3.2. Employee performance evaluation

Employee performance evaluation is the objective and fair evaluation of employee behavior and results by enterprise managers, which is based on the reasonable and effective performance evaluation system of enterprises. Employee performance evaluation is an important part of enterprise human resource management, as well as one of the important components of performance management. However, due to the uncertainty of subjective factors such as decision-makers' subjective experience, personal ability and personal preference, there is a large ambiguity and uncertainty in employee performance evaluation<sup>(14)</sup>.

### 3.3. Performance pressure and employee behavior

In organizational management, employees are not only required to continuously improve their own abilities and performance, but also expected to use their complementary knowledge and professional skills as members of the organization to form skills and experience beyond any individual in the organization, so as to improve the overall performance of the organization. Therefore, in order to gain more honor and job security through good work performance, employees need more work input in order to achieve high employee performance and organizational performance more efficiently, which will correspondingly bring more sense of urgency to employees, resulting in performance pressure<sup>(15)</sup>. Different performance pressure situations may have an impact on employees' perception of happiness<sup>(16)</sup>, creativity<sup>(17)</sup>, withdrawal behavior<sup>(18)</sup>, etc. It is necessary to balance performance pressure and effectively use performance pressure to promote employees' positive behaviors.

### 3.4. Employee performance management and enterprise development

Employee performance management plays a key role in improving individual or organizational performance results, optimizing business processes and managing processes, and is an important part of enterprise human resource management<sup>(19)</sup>. The management of employee performance is reflected in human resource management system<sup>(20)</sup>, performance work system<sup>(21)</sup>, performance appraisal<sup>(22)</sup>, etc. Performance management promotes the maximization of human resource benefits of enterprises, and scientific performance management can effectively reduce labor costs of enterprises. Motivating employees' work enthusiasm is one of the important contents of enterprise development and continuous optimization, so for enterprises, performance management plays a pivotal role in the process of employee management. Senior managers should take the initiative to

provide and improve the performance feedback mechanism, pay attention to the creation of procedural fairness

atmosphere, and build a good employee performance management mechanism<sup>(23)</sup>.

**Table 1.** Top 10 high-frequency keywords for employee performance research in China (centrality > 0)

Serial number	Keywords	Frequency	Centrality	Year of earliest appearance
1	Job performance	120	0.36	2005
2	Innovation Performance	94	0.26	2000
3	Task performance	59	0.21	2008
4	Staff Performance	59	0.23	2002
5	Work input	37	0.04	2000
6	Achievements	28	0.13	2007
7	Corporate Performance	28	0.09	2006
8	Performance Management	23	0.13	2004
9	Performance Appraisal	21	0.07	2005
10	Organisational Commitment	21	0.09	2005

#### 4. Frontiers of Employee Performance Research in China

Research frontier is the research topic of mutation in a certain period of time in the research field, which is conducive to the study of the latest research trends and development trends in a certain field. Keyword mutation intensity can directly reflect the proliferation degree of keywords in a period of time. Table 2 reflects the key words of Chinese employee performance research, including "emotion", "happiness", "deviant innovation", "performance pressure", "work emotion", "performance management", etc. Among them, "emotion", "happiness", "deviant innovation", "performance pressure" and "work emotion" are the forefront

of early employee performance research, and more attention is paid to the emotional perception of employees. From 2004 to 2014, I paid more attention to the research on "performance management", "performance appraisal", "performance evaluation", "knowledge employees", "performance" and psychological capital, and gradually shifted to the research on enterprise performance management. In recent years, "innovation performance" has become a new research growth point and is still in the upsurge period of keyword emergence, that is, future research content may still be related to it. And the recent popular "digital human resources", "big data system", "digital entrepreneurial performance", etc., may become the new research trend of Chinese employee performance, and become an important part of the enterprise human resource management research system.

**Table 2.** List of sudden occurrence of key words in Chinese staff performance research

Serial number	mutation word	Mutation intensity	Start of the year	End of year	2000-2022
1	Emotions	4.2	2000	2007	
2	Happiness	3.83	2000	2007	
3	Cross-track innovation	3.75	2000	2007	
4	Performance pressure	3.49	2000	2005	
5	Emotions at work	3.46	2000	2007	
6	Performance Management	5.77	2004	2011	
7	Performance Appraisal	6.7	2005	2011	
8	Performance evaluation	5.32	2006	2010	
9	Knowledge workers	3.53	2008	2009	
10	Achievements	4.5	2009	2013	
11	Mental Capital	3.94	2012	2014	
12	Innovation Performance	6.46	2018	2022	

## 5. Reflection and Prospect

Our staff performance research has made some achievements, but there are still some limitations in the research content, research perspective, research methods, research objects, disciplinary fields, cross-team cooperation and other aspects. The future can be further discussed in the following aspects.

First, in terms of research content, the academic circle has made a lot of research achievements in the aspects of problem countermeasures, action mechanism, measurement and evaluation of employee performance. However, currently, scholars have not carried out the meta-analysis of employee performance research, and it remains to be discussed whether the research on employee performance should focus on behavior or structure. Artificial intelligence and big data should be further integrated into employee performance research.

Second, in terms of research methods, at present, Chinese staff performance research has included a number of qualitative and quantitative methods, the qualitative method is mainly case study, the quantitative method is mainly AHP, empirical analysis, research method richness has room for improvement. In the future, more grounded analysis, interview analysis and literature research can be added to integrate data and texts to enhance the authoritativeness and credibility of the research.

Thirdly, in terms of research objects, some scholars have proposed that leadership type, colleague behavior, customer support and individual employee behavior all have a great impact on employee performance. However, at present, subdivided studies mostly focus on leadership behavior and employees themselves, ignoring other subjects' research. In the future, we can start from the perspective of multiple objects. In particular, we should strengthen the research on the influence of behaviors of colleagues, team members, family members and customers on employee performance.

Fourthly, in the field of disciplines, most researchers focus on the disciplines of management and economics, and there are few interdisciplinary and cross-field researches. Research institutions are mostly concentrated in colleges and universities, and core research institutions have not yet formed a connection. In the future, psychology, biology, art, sociology and other majors can be included in the research to further broaden the research field and form a cross-team research involving the government, universities, research institutions, social organizations and other parties.

Fifth, in terms of research perspective, at present, Chinese employee performance studies are mostly carried out from the micro and medium perspective, and the specific behavior and psychological perception of employees, lack of comparative research from macro perspective. In the future, we can consider comparative analysis of the factors of employee performance, comparative study of employee performance in different types of enterprises and different countries, and actively explore employee performance management under the national macro background.

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