

## THE INFLUENCE OF TRANSFORMATIONAL LEADERSHIP AND TEAM EMOTIONAL ATMOSPHERE ON EMPLOYEES' INNOVATIVE BEHAVIOR

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### Abstract

With the globalization of the global economy and the intensification of competition pressure, how to stimulate employee innovation to maintain the sustained growth of corporate profits has become the key. Based on the theories of leadership behavior and emotional events, this study proposes a research model on the relationship between transformational leadership, team emotional atmosphere and employees' innovative behaviors. In Sichuan, Chongqing, Guangxi, Beijing and other places, 114 teams and 700 employees were evaluated. The measurement scale is divided into two versions: the team leader questionnaire and the team member questionnaire.

In this paper, through correlation analysis and partial correlation analysis for data analysis, the results found that: transformational leadership can influence employees' innovative behaviors through team emotional atmosphere mediator variables.

**Keywords:** Transformational leadership, Team emotional atmosphere, Employees' innovative behavior

## Introduction

Innovation ability is the driving force of a company's sustainable development. Management scholars and companies around the world are exploring, experimenting, and researching ways to improve an organization's ability to innovate. Lee & Chang (2006) empirically point out that leadership style can directly influence employees' innovative behavior. The importance of leadership behavior for organizational innovation is self-evident. Shin & Zhou (2003) suggest that transformational leadership can influence employees' innovation behavior. At the same time, with the development of emotional event theory, scholars' research on the team has added a new perspective of team emotions. This paper attempts to explore the impact mechanism of transformational leadership on employees' innovation behavior in the context of China.

## Research Objectives

This paper aims to explore the intermediary mechanism of team emotional atmosphere in the relationship between transformational leadership and employee innovation behavior, accumulate more empirical evidence for the study of team emotional atmosphere, and provide corresponding practical suggestions for enterprises to stimulate employee innovation consciousness.

## Literature Review

The concept of transformational leadership

was proposed by Western scholar Burns in 1978. In 1985, Bass formally proposed the theory of transformational leadership. Burns (1978) believed that transformational leadership refers to a leadership that encourages subordinates to work hard on the basis of personal charm and moral values, and achieves the best state of self in order to transcend personal interests for organizational benefits. It is a process in which leaders improve themselves, pay attention to the needs of subordinates, and motivate employees to work hard for the organization. The outcome variables of transformational leadership are less studied at the organizational level, focusing on organizational performance and organizational innovation. Chinese and western researches on transformational leadership mainly focus on two aspects: first, transformational leadership, transactional leadership and laissez-faire leadership are compared in the same level facing the influence of outcome variables; Second, the mediating mechanism of transformational leadership on individual and team variables.

Employee innovation behavior refers to the creation and implementation of innovative ideas (Amabile, 1996; Zhou, Hirst & Shipton 2012)

As for the relationship between transformational leadership and employee innovation behavior, most Chinese and Western scholars believe that there is a positive correlation between the two. Bass & Avolio (2000) think that there is a positive correlation between transformational leadership and

employee innovation behavior. Lee & Chang (2006) also agree with this view and think that leadership style can significantly improve employees' innovation ability. In the context of Chinese culture, scholars Ding, Xi & Zhang (2010) argue that transformational leadership aims to set goals for subordinates and motivate them to achieve them, and that transformational leadership can positively affect employee creativity. Therefore, this paper should first verify the impact of transformational leadership on employee innovation behavior in the Chinese context.

Weiss & Cropanzano (1996) put forward the theory of emotional event theory. They believe that employees in the organization inevitably encounter a variety of events, which can trigger an individual's emotional response, while the individual's emotional response affects the individual's attitude and behavior. The theory of emotional events opens up a new perspective for management research. Liu, Sun & Hartel (2008) proposed the concept of team emotional atmosphere, which refers to the shared perception of team members' team emotions and exchanges of team emotions.

From the concept of team emotional atmosphere, we can know that team emotional atmosphere affects individual creativity (Grawitch, Munz & Kramer, 2002; Härtel, Helen & Hartel, 2012) The research on team emotional atmosphere mainly focuses on team performance and team effectiveness (Elfenbein & Shirako, 2006) Previous studies have neglected the relationship between leadership behavior and

team emotional atmosphere. According to contingent leadership theory (House, 1996), the effectiveness of leadership is often influenced by situational factors. Leadership behavior is an important source of positive work attitude and good mental state of employees, and transformational leadership can stimulate employees' positive self-efficacy and tenacious individual characteristics, so that they show hope and optimism (Liang & Li, 2016) Team emotional atmosphere is likely to play an intermediary role in transformational leadership. Therefore, the next step of this paper is to verify the mediating effect of team emotional atmosphere between transformational leadership and employee innovation behavior.

### Research Hypothesis

Based on the theoretical basis and relevant literature, this paper constructs a research model of the relationship between transformational leadership, team emotional atmosphere and employee innovation behavior. The emotional atmosphere of the team is an intermediary variable, and the specific framework is shown in Figure 1.

Transformational leadership is a style of leadership. A leader with a transformational leadership style, through the infection of personal character and charm cultivates and cares for subordinates according to the characteristics of his subordinates and advocates the spirit of suspicion. It includes four dimensions, namely, moral behavior, vision

motivation, personalized care and leadership charm. Härtel, Helen & Hartel 2012) believed that there was a positive correlation between transformational leadership and employees' innovation behaviors. Lee & Chang (2006) also agreed with this view, believing that leadership style can significantly improve employees' innovation ability. In the context of Chinese culture, scholars Ding, Xi & Zhang (2010) believed that the transformational leadership

style aimed to set goals for their subordinates and motivate them to achieve them. Transformational leadership can positively influence innovation ability.

Based on this, this paper proposes hypothesis about transformational leadership and employees' innovation behavior:

H1: Transformational leadership is positively related to employees' innovation behavior.

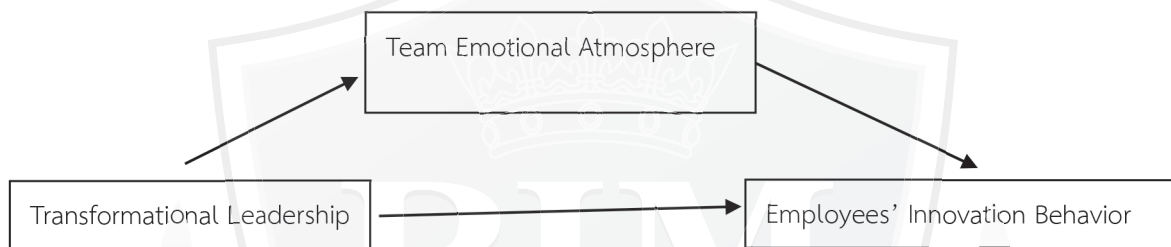


Figure 1 Research Framework

Elfenbein & Shirako (2006) believed that the emotional atmosphere of a team is the shared perception of team members' emotion and emotional exchange in the team. This shared perception can represent the characteristics of the team and have a significant impact on the team and its members. According to the theory of emotional events, the working environment characteristics of employees will affect the emotional atmosphere of team members. Walter & Bruch (2010) believed that leadership style was also an important feature of working environment, which would have an impact on the emotional atmosphere of the team. Therefore, the following hypotheses are proposed:

H2: Transformational leadership is positively

related to the emotional atmosphere of the team.

According to the theory of emotional events, the emotional events in the working environment of the employees do not directly affect their individual behavior, but stimulate the emotional response through emotional events, thus further affecting the individual behavior. Härtel, Helen & Hartel 2012) believed that changes in team emotion would affect the emotional event resonance and individual behavior of individuals. Grawitch, Munz & Kramer (2002) found that individual innovation ability played a better role in a team's positive emotional atmosphere. It can be seen that team emotional atmosphere can affect employee's individual behavior. Accordingly, this article proposes

the following hypothesis:

H3: The emotional atmosphere of the team is positively related to employees' innovation behavior.

Bass & Avolio (2000) believed that transformational leadership means that leaders improve their level of needs by changing their subordinates' values and beliefs so that subordinates can realize the value of work goals; Or it is to plan the vision and mission for the organization to motivate the subordinates, so that the subordinates are willing to surpass their original efforts; Or it is help subordinates learn new skills, develop new potentials, and improve the overall effectiveness of the organization. He pointed out that an important feature of transformational leadership is that it is good at creating an organizational environment and atmosphere that encourages innovation, and can promote employee innovation ability and organizational innovation. Zhu, Qi & Xu (2008) showed that transformational leadership influences team innovation performance by creating a team atmosphere and promoting knowledge sharing. Accordingly, this article proposes the following hypothesis:

H4: The emotional atmosphere of the team plays an intermediary role between transformational leadership and employees' innovative behaviors.

## Research Methods

The research object of this paper is the employees of high-tech enterprises in China. The questionnaire is used to obtain the data

for empirical analysis. The questionnaire adopts Likert's 5-point scale (1 means completely agree; 5 means completely disagree). In order to reduce the problem of common method bias caused by data homology, this paper obtains data of different variables based on different research objects. Transformational leadership questionnaire and team emotional atmosphere questionnaire were filled out by team members, while team managers filled in their subordinates' innovative behavior questionnaire.

First of all, this paper carries out a small sample of pre-survey analysis through two high-tech enterprises in Shuangliu County, Chengdu, Sichuan Province, China, to verify the appropriateness of the selected scale. The pre-survey was conducted by filling in questionnaires on the spot, and 48 supervisors selected 3 direct subordinates respectively, totaling 144 employees, 144 questionnaires were sent out. After eliminating the invalid questionnaires, 123 sets of valid questionnaires were matched between supervisors and subordinates, with an effective recovery rate of 87.5%.

Subsequently, after more than two months, 114 teams of high-tech enterprises in Sichuan, Chongqing, Guangxi and other places issued and recovered questionnaires. 700 questionnaires were sent out, 588 questionnaires were recovered, the recovery rate was 84%, 96 valid samples were obtained after screening, 502 pairs of valid questionnaires were recovered, the effective recovery rate was 71.7%.

As for the scale, the transformational leaders chose the scale of Li Chaoping and Shi Qin in the Chinese situation, which included four dimensions of moral deference, vision incentive, personalized care and leadership charm, with a total of 26 items, and the reliability of each dimension exceeded 0.70; The Employees' innovative behavior scale developed by Liu & Shi (2009) has 5 items, and the reliability is 0.86; The team emotional atmosphere scale developed by Liu, Sun & Hartel (2008) was selected with 8 items and the reliability was 0.963.

## Research Result

This paper tests the reliability and validity of transformational leadership, employees' innovation behavior and team emotion atmosphere with large sample data. The results are higher than the standard values, and the descriptive statistical analysis shows that the values are normal distribution, which can be used for the next empirical analysis.

The principle of correlation analysis is to use the value of correlation coefficient to

measure the relationship between variables. In this paper, Pearson method is used to analyze the correlation between variables. In general, the closer the correlation is to 1 or minus 1, the more significant the relationship is, or positive or negative.

Transformational leadership and employee innovative behavior are the independent variables and dependent variables of this study. According to the foregoing, transformational leadership (A) has four dimensions: Moral behavior (A1), vision motivation (A2), personalized care (A3) and leadership charm (A4); Employees' innovation behavior has only one dimension: employees' innovation behavior (C). Correlation analysis shows that the four dimensions of transformational leadership are significantly correlated with employees' innovation behavior, and are all positively correlated. This proves that H1 transformational leadership is positively related to employees' innovation behavior, that is, the higher the level of transformational leadership, the more innovative behavior employees perform.

**Table 1** The correlation analysis of transformational leadership and employees' innovation behavior

	Moral behavior (A1)	Vision motivation (A2)	personalized care (A3)	leadership charm (A4)	Transformational leadership (A)
Employees' innovative behaviors (C)	0.457**	0.269**	0.293**	0.338**	0.653**



In the design of this study, transformational leadership and team emotional atmosphere were evaluated by the team members answering questionnaires. Therefore, the data of these two variables will be aggregated and diagnosed in this paper to check whether the data at the individual level can be aggregated to the team level. Rwg average values of transformational leadership and team emotional atmosphere

are 0.89 and 0.83 respectively, which meets internal consistency requirements; At the same time, the F values of both variables are greater than 1, and  $P < 0.001$ . The degree of difference between the reaction groups ICC (1) and the team average reliability also show that the individual level data can be aggregated to the team level for statistical analysis.

**Table 2** The correlation analysis between transformational leadership and team emotional atmosphere

	Moral behavior (A1)	Vision motivation (A2)	personalized care (A3)	leadership charm (A4)	Transformational leadership (A)
Team emotional atmosphere (B)	0.421**	0.325**	0.524**	0.381**	0.677**

As shown in Table 2, the correlation analysis shows that the four dimensions of transformational leadership are significantly correlated with team emotional atmosphere, and are all positively correlated. This proves that H2 transformational leadership is positively correlated with the team's emotional atmosphere, that is, the higher the level of transformational leadership, the more the team's emotional atmosphere can be created.

**Table 3** The correlation analysis between team emotion atmosphere and employee's innovation behavior

	Team emotional atmosphere (B)
Employees' innovative behavior (C)	0.594**

As shown in Table 3, correlation analysis shows that there is a significant correlation between team emotional atmosphere and employees' innovative behavior. This proves that the emotional atmosphere of H3 team is positively correlated with employees' innovative behaviors, that is, the more positive the emotional atmosphere of the team is, the more it can stimulate employees' innovative behaviors.

In order to test the intermediary role of the team's emotional atmosphere, this paper makes a partial correlation analysis. The specific

method is to control the team emotional atmosphere variables to test the correlation between transformational leadership and employees' innovation behavior. Generally speaking, if the emotional atmosphere variable of the team is controlled, the correlation coefficient between independent variables and dependent variables is significantly reduced compared with the emotional atmosphere variable of the team that is not controlled, then the intermediary effect of the emotional atmosphere variable of the team can be proved.

**Table 4** Partial correlation analysis

control variable		Employees' innovative behavior
Team emotional atmosphere	Moral behavior	0.233**
	Vision motivation	0.098**
	personalized care	0.078**
	leadership charm	0.167**

As shown in Table 4, the correlation coefficient between independent variable transformational leadership and dependent variable employee's innovation behavior decreases significantly when psychological empowerment is taken as a control variable. According to Baron & Kenny (1986) the decreased significant correlation indicates "partial mediation." H4 has been verified, that is, the emotional atmosphere of the team plays an partial mediation role between transformational leadership and employees' innovation behaviors.

## Conclusion and Discussion

The empirical results show that: (1) there is a positive correlation between transformational leadership and employees' innovation behavior. We can find that among the four dimensions of transformational leadership, the correlation coefficient of the moral behavior is the biggest, that is, the moral behavior has the greatest influence on the innovation behavior of employees in the four dimensions. This explains the importance of the special dimension of transformational leadership in the



Chinese context. Subordinates have potential requirements for leaders' personal morality and ability quality, if leaders themselves can not do it, then subordinates will show distrust for their organizational vision, objectives, tasks and arranged work, which will affect the enthusiasm of subordinates. An excellent leader should take the lead, use his own moral character to infect and motivate his subordinates, and set an example to make employees have more psychological protection and steadfastness in the process of innovation, so as to stimulate the emergence of innovative behavior of employees. (2) Transformational leadership is positively correlated with the emotional atmosphere of the team. Among them, the correlation coefficient of moral behavior and personalized care dimension is larger. This is consistent with the argument made by Walter & Bruch (2010) Leadership style is also an important feature of the work environment, and the team emotional atmosphere formed by this environmental feature will affect the behavior of team members (Elfenbein & Shirako, 2006) Leaders with transformational leadership style will cultivate according to the characteristics of subordinates, care for subordinates, advocate suspicion of subordinates, create a team atmosphere of sharing information within the organization, and thus stimulate staff innovation. (3) The emotional atmosphere of the team is positively correlated with employees' innovation behavior. This is consistent with the arguments of Grawitch, Munz & Kramer (2002); Härtel, Helen & Hartel (2012) Employees'

innovative behavior is inevitably affected by the team emotional atmosphere, and in a positive emotional atmosphere, it can stimulate individual innovation. (4) The emotional atmosphere of the team plays an intermediary role in the relationship between transformational leadership and employees' innovation behavior. According to intrinsic motivation theory, people do not innovate without reason (Ding, Xi & Zhang 2010) When employees perceive the significance of the work they are engaged in, this is in accordance with the theoretical principles of emotional events, which are partly described in the literature review, that emotions have an impact on human behavior. And the employees are inevitably nested in the team, and the emotional atmosphere of the team will affect the individual's behavior. Therefore, transformational leadership can pay more attention to the emotional needs and emotional state of team members by improving the awareness of emotional atmosphere, and take corresponding measures to stimulate employee innovation according to changes in the emotional atmosphere of the team.

The empirical results show that the importance of team emotional atmosphere to improve the innovative behavior of employees. Team emotional atmosphere is similar to the unwritten system in the team, which restricts every team member to a certain extent and affects the individual behavior of team members. In real life, the organization should pay attention to the emotional management

of team members, strengthen the emotional management of team leaders and their subordinate members and the related training of team emotional atmosphere, and pay more attention to the emotional needs of team members and the emotional relationship between members. At the same time, team

leaders should improve the ability of individuals to detect the emotions of others in the team, so as to keenly judge whether the emotional atmosphere of the team has changed, and help to take timely measures to stimulate employees to innovate.

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