The influence of leadership style on employees' innovative behavior Based on the mediating role of superiors' responsiveness

Songting Yang

Dalian Ocean University, Dalian, China

Abstract. The remote working model is more and more accepted by people under the normalization of epidemic prevention and control, and how to improve the online innovation behavior of employees has attracted widespread attention from the academic community. This paper collects data by distributing questionnaires, using SPSS software, introducing superior responsiveness as a mediating variable, and exploring its role in the impact of transformational leadership and transactional leadership on employees' innovative behavior. The research shows that: firstly, transformational leadership and transactional leadership have a significant positive impact on employee innovation behavior; secondly, leadership style positively affects the level of superior responsiveness; and finally, the introduction of superior responsiveness into the relationship between leadership style and employee innovative behavior signals in the relationship. It is found that superior responsiveness plays a full mediating role in the influence of transformational leadership on employees' innovative behavior; it plays a partial mediating role in the relationship between transactional leadership and employees' innovative behavior.

Keywords: Leadership style; Employee innovation behavior; Superior responsiveness; Mediating effect.

1. Introduction

In the face of today's fierce market competition, how to stand out has gradually become a problem that all managers must think about every day. In the context of the new era, the state has introduced relevant policies to vigorously promote the concept of innovation and development. Enterprise innovation is the driving force for the development and survival of an enterprise, and it is also an important manifestation of the social competitiveness of an enterprise. The innovation ability of employees is undoubtedly the most important factor in promoting enterprise innovation. The power of innovative behavior refers to employees who consciously propose, adopt, or practice new products, technologies, and management concepts that are useful to employees, work teams, or organizations. Enterprises are gradually paying attention to the relationship between leadership and employee behavior. It has also been verified in academia that a leadership style affects employees' innovative behavior to a large extent. Among a variety of leadership styles, the roles of transformational leadership and transactional leadership in employees' innovative behavior have received extensive attention from a large number of scholars. Influence scholars express their opinions. During the novel coronavirus pneumonia epidemic, many enterprises have switched from traditional offline offices to online offices at home, and telecommuting has attracted widespread attention as a new way of working. In the research on the mechanisms of leadership on employees, the mediating role of superior responsiveness is rarely explored. Therefore, through data collection, this paper studies the indirect effect of leadership style on employees' innovative behavior through the responsiveness of superiors, enriches and improves the theoretical research on employees' innovative behavior, and provides suggestions and experience for enterprises to achieve innovative development.

2. Literature review and questioning

In the context of the global fight against the new crown epidemic, employees use modern communication technology to work at home, and the remote work mode is increasingly becoming the norm. Therefore, in the process of remote work communication, whether leaders and employees can

communicate effectively and whether subordinates can receive timely responses will greatly affect the behavior of employees and thus have an impact on innovative behavior.

Regarding the telecommuting mode, many scholars have studied the impact of telecommuting on employees' work, and most studies believe that it has a positive effect on employees. Sun Nan (2022) believes that telecommuting breaks the coercion of the workplace and schedule and gives people more freedom. On the contrary, there will also be some negative effects. Li Yuan (2013) shows that telecommuting makes employees unable to balance family and work roles, resulting in conflicts between family and work. At the same time, Hao Yujie (2022) pointed out that the working hours of telecommuting employees generally increased, and employees may have negative emotions and reduce their willingness to telecommute. Innovation is an important source of corporate competitive advantage, and employees are an important channel of corporate innovation. Therefore, how to influence employees' innovative behavior in the mode of telecommuting is worthy of in-depth study. This paper introduces the responsiveness of superiors as a mediating variable and constructs a theoretical model of transformational leadership and transactional leadership on employees' innovative behavior.

Visionary managers pay attention to the value of employees, which can stimulate employees' creativity, enhance team cohesion, promote employees' innovative behavior, and truly promote the development of enterprises. Because of this, a large number of scholars have begun to study the role of leadership in organizational creativity in enterprises. The research shows that leadership style is related to employee innovation behavior to a certain extent, but there are differences in the relationship between different leadership styles and employee innovation. Leadership style not only has a direct impact on enterprise innovation but also has indirect effects through other paths. In the existing literature, some scholars have paid attention to the fact that the political nature of positive performance appraisal and the explanatory power of positive performance appraisal play a mediating role between transformational leadership and employee innovative behavior and transactional leadership and employee innovative behavior, respectively; some studies have concluded that innovative self-effectiveness mediates the relationship between innovative leadership and employees' innovative behavior. In addition, Wang Hui et al. (2022) considered the mediating role of superior responsiveness to negatively moderate role blurring between remote work and employee innovation behavior. The superior's responsiveness is the degree of the superior's timely response to the online messages from the subordinate's related work. After reviewing the previous research literature, it was found that few scholars studied superior responsiveness as an internal mechanism. In view of this, this paper integrates the telecommuting environment into employees' work behaviors and uses superior responsiveness as a mediating variable to study the relationship between transformational leadership, transactional leadership, and employees' innovative behaviors.

3. Research Design

3.1 Research Hypothesis

The biggest characteristic of transformational leadership is to emphasize the motivation of change and vision and to promote the innovative behavior of employees through cognition and incentive mechanisms. From previous research, it is found that most scholars in academia believe that transformational leadership has a positive impact on employees' innovative behavior. Huang Qiufeng et al. (2016) believe that transformational leadership positively affects the innovative behavior of employees. At the same time, the research of Qu Rujie et al. (2014) shows that transformational leaders play an exemplary role by clarifying the link between work and expected performance and stimulating employees' innovative thinking. Therefore, this paper proposes the following assumptions:

H1: Transformational leadership has a significant positive impact on employee innovation behavior.

Transactional leaders meet the needs of their subordinates by rationally arranging work tasks, improving the reward and punishment system, mobilizing the enthusiasm of employees, and

motivating employees to accomplish organizational goals. There is some controversy as to whether transactional leadership can improve employees' innovative behavior. Burns (1978) pointed out that transactional leadership has a positive impact on employee innovation behavior. Amabile (1996) pointed out that transactional leadership has a negative impact on employee innovation behavior. However, this paper argues that transactional leadership helps employees achieve performance goals and provides rewards, which have a positive effect on employee innovation. Therefore, this paper proposes the following assumptions:

H2: Transactional leadership has a significant positive impact on employee innovation behavior.

When managers are highly responsive in the process of telecommuting, they will quickly respond to the requests of online employees, provide timely feedback on the information employees need, and provide needed resources and help so that they can have a clearer understanding of work goals. This will effectively improve work efficiency, thereby stimulating the innovation ability of employees. Combining H1 and H2, this paper proposes the following assumptions:

H3: Transformational and transactional leadership have a significant positive impact on superior responsiveness.

H4: Superior responsiveness has a significant positive impact on employee innovation behavior.

A review of previous studies shows that different leadership styles have different effects on organizational innovation, while superior responsiveness has a certain impact on organizational innovation. Therefore, based on the above research, it has theoretical and practical significance to explore the mediating role of superior responsiveness in the relationship between leadership style and innovation. Therefore, this paper proposes the following assumptions:

H5: Superior responsiveness has a mediating role between transformational and transactional leadership and employee innovation behavior.

3.2 Variable Selection

In this study, corresponding measurement standards and scales were formulated for the independent variables, dependent variables, mediating variables, and control variables, and finally, all the scales were summarized in the questionnaire. In this study, the independent variable is leadership style; the dependent variable is the innovative behavior of employees; the mediating variable is superior responsiveness; and the control variable is the collected demographic data of the subjects, such as gender, age, education level, employment in the company, working years, etc. This study modified and supplemented some measurement items by searching relevant domestic and foreign literature to find mature scales related to measurement variables. Except for the control variable, the rest of the variables were scored using the Likert 5-point scale, and each number represented the subjects' different perceptions of specific leadership behaviors in the work environment. "1" means "very inconsistent", "2" means "somewhat inconsistent", "3" means "generally agree", "4" means "somewhat agree" and "5" means "very agree".

3.2.1 The Scale of Leadership Styles

This research is based on the evaluation tool MLQ established by Li Chaoping (2005) on Bass (1996) and the revised transformational leadership style and transactional leadership style measurement scale. The transformational leadership questionnaire has a total of 6 items. The main connotations are: Transformational leadership is measured by the four dimensions of "leadership charisma", "vision motivation", "exemplary morality", and "personalized care". For example, "My leaders work hard for the interests of the department/unit, regardless of personal gains and losses." The Transactional leadership style questionnaire is mainly measured from the two dimensions of "contingency reward" and "active exception management," a total of six items, such as "my leader will clearly tell subordinates what the individual can expect when performance goals are achieved." Direct supervisors are evaluated by employees to measure the leadership style of their direct supervisors as perceived by subordinates.

3.2.2 Measurement of Employee Innovation Behavior

Using the innovative behavior scale developed by Scott et al. combined with the innovative behavior scale proposed by Ng, T. W. H., & Lucianetti, L. (2015) to modify it, including idea generation, creative communication, and creative implementation. The subscales correspond to questions 1-3, 4-6, and 7-9, and the total or average score of the questions included in each subscale can be calculated, including 9 questions, including "I will actively seek new technology, process, method, or product ideas," "I will promote and publicize my ideas to others," and "I will fully develop plans and schedules to implement my ideas." The scale has been proven to have good reliability and validity in the Chinese context.

3.2.3 Measurement of Superior Responsiveness

The responsiveness of superiors refers to the responsiveness scale proposed by Wang Hui et al. based on the 3-item developed by Sonnentag et al., which specifically includes "When I ask for help/suggestion from the leader online, the leader usually responds on time." "When I report the work content to the leader online, the leader can respond in time," and "When I propose ideas and ideas to the leader online, the leader can generally discuss them with me in a timely manner." 3 items

Control variables. Referring to existing research, select gender, age, education, company nature, years of work in the company, and current position as control variables. Among them, gender (1 = male, 2 = female); age is divided into 3 categories (1 = 20-29 years old, 2 = 30-39 years old, 3 = 40 years old and above); education is divided into 3 categories (1 = college and below, 2=undergraduate, 3=master and above); company nature is divided into 4 categories (1=state-owned enterprise, 2=private enterprise, 3=sino-foreign joint venture, 4=wholly foreign-owned enterprise); working years are divided into 5 categories (1=within 1 year,2=1-2 years, 3=3-5 years, 4=6-10 years, 5=more than 10 years); positions are divided into 4 categories (1=senior managers, 2=middle managers, 3=basic managers, 4 = ordinary employees).

3.3 Model Selection

This paper adopts the layer-by-layer regression mediation effect analysis method proposed by scholars such as Wen Zhonglin [10]. The specific model is as follows: X represents the independent variable leadership style, namely transformational leadership and transactional leadership; Y represents the dependent variable employee innovation behavior; M represents the mediator variable superior responsiveness; and e1, e2, and e3 are all random errors. If the coefficient c is significant, it means that leadership style has a significant impact on employee innovation behavior, and the hypotheses H1 and H2 of this paper can be verified; if the coefficient a is significant, it means that leadership style has a significant impact on the responsiveness of superiors, and H3 can be verified.

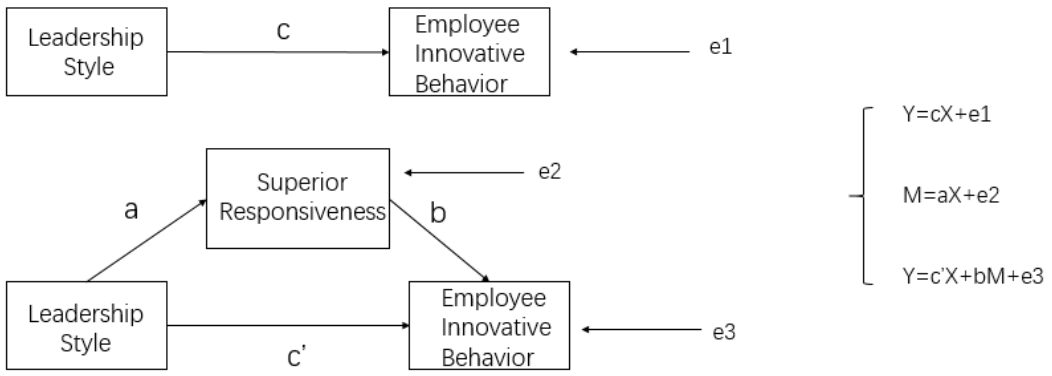

Fig. 1 Schematic Diagram of the Mediation Effect

To make the mediating effect significant, first of all, both a and c need to be significant. That is, leadership style has a significant impact on both the dependent variable employee innovation behavior and the mediating variable superior responsiveness. At the same time, if b in the equation is also significant, that is, leadership style and the mediating variable superior responsiveness appear in the

regression equation at the same time, if the mediating variable still has a significant impact on employee innovation behavior, then the mediating effect is established. If a, b, and c are significant and c' is not significant, it means that the mediating variable has a complete mediating effect; if all four coefficients are significant, it means that the mediating variable has a partial mediating effect.

4. Empirical Investigation

4.1 Sample Introduction

This research adopts the method of network research and collects survey data for enterprises in x region y by distributing questionnaires. A total of 230 copies were distributed, and 205 questionnaires were recovered, with a recovery rate of 89.1%. After excluding invalid questionnaires that were too short and incomplete, 169 valid questionnaires were finally obtained, with an effective rate of 82.4%. Statistical analysis and hypothesis testing of sample data were done through the statistical software SPSS and the PROCESS plug-in.

4.2 Descriptive Statistics

The sample distribution characteristics of demographic variables are shown in Table 3-1:

Table 1. Sample distribution and descriptive statistical analysis

category		number of people	proportion
Gender	male	80	47.3%
	female	89	52.7%
Education	college and below	69	40.8%
	undergraduate	83	49.1%
	master and above	17	10.1%
Age	20-29 years old	93	55.0%
	30-39years old	50	29.6%
	40 years old and above	26	15.4%
Company Nature	state-owned enterprises	43	25.4%
	private enterprises	45	26.6%
	Sino-foreign joint ventures	71	42.0%
	Wholly foreign-owned enterprises	10	5.9%
Position	senior managers	15	8.9%
	middle managers	21	12.4%
	basic managers	57	33.7%
	ordinary employees	76	45.0%
Working years in the company	within 1 year	20	11.8%
	1-2years	69	40.8%
	3-5years	41	24.3%
	6-10years	30	17.8%
	more than 10 years	9	5.3%

It can be seen from the above table that, in terms of gender, 80 men filled out the questionnaire, accounting for 47.3%, and 89 women filled out the questionnaire, accounting for 52.7%.In terms of education, the number of undergraduates is the largest, with 83 people, accounting for 49.1%;followed by college and below, accounting for 40.8%; the smallest number is master's degree and above, with 17 people, accounting for 10.1%; in terms of age, there are 93 people aged 20-29, the largest number, accounting for 55.0%; 50 people aged 30-39, accounting for 29.6%; and 26 people aged 40 and above, accounting for 15.4%. In view of the company's nature, there are 43 employees in state-owned enterprises, accounting for 25.4%; 45 employees in private enterprises, accounting for 26.6%; 71 employees in Sino-foreign joint ventures, accounting for 42%; and 10 employees in wholly foreign-owned enterprises, accounting for 5.9%. Most of the grassroots managers and ordinary employees are 57 and 76, accounting for 33.7% and 45%, respectively; 21 middle-level managers,

accounting for 12.4%; and 15 senior managers, accounting for 8.9%. The number of people who have worked in the company for 1-2 years and 3-5 years is the largest, with 69 people and 41 people, accounting for 40.8% and 24.3%, followed by people who have worked for 6-10 years, with 30 people, accounting for 17.8%. The number of people with more than 10 years is the smallest, accounting for 5.3%.

4.3 Test for reliability and validity

In order to test whether the variables actually measured by the scale meet the requirements of the original design, they need to be tested for reliability and validity. This study uses SPSS25.0 software to test transformational and transactional leadership, employee innovation behavior, and superior responsiveness. Cronbach's alpha coefficient was mainly used to verify the internal consistency of each scale, so as to test the reliability of the variables in the formal questionnaire. The reliability reflects the consistency and stability of the scale data to a certain extent, and the reliability coefficients represent different degrees of reliability in different value ranges. In the validity analysis, the KMO test and the Bartlett sphere test were performed. The result is as follows:

4.3.1 Analysis of the dependability and validity of transformational leadership

The reliability and validity analysis of transformational leadership is carried out. The results are shown in the following table. Transformational leadership has 6 items. From the table, it can be found that the reliability coefficient of the overall Cronbach's Alpha of transformational leadership is 0.871. After deleting the item, Cronbach's Alpha The Alpha reliability coefficients are all less than or equal to 0.871, indicating that the reliability of each measurement item of transformational leadership meets the requirements, and the overall reliability is also good, which meets the requirements of empirical analysis.

Table 2. Reliability Analysis Results of Transformational Leadership

transformational leadership	Scaled mean after removing terms	scale variance after removing terms	Corrected Item and Total Correlation	Cronbach Alpha after item deletion	Overall Cronbach Alpha
transformational leadership 1	16.59	21.839	0.798	0.827	0.871
transformational leadership 2	16.56	22.640	0.682	0.848	
transformational leadership 3	16.64	23.111	0.680	0.848	
transformational leadership 4	16.51	23.001	0.709	0.843	
transformational leadership 5	16.54	23.619	0.626	0.857	
transformational leadership 6	16.53	24.239	0.546	0.871	

Through the KMO test and Bartlett's spherical test, it was found that the KMO value of the sample was 0.820, and the significance was 0.000, indicating that the validity of the scale was good.

Table 3. Transformational Leadership Scale, KMO, and Bartlett's Test

KMO Sampling Suitability Quantity		0.820
Bartlett’s Test of Sphericity	approximate chi-square	566.105
	degrees of freedom	15
	significance	0.000

4.3.2 Analysis of the dependability and validity of transactional leadership

The reliability and validity of transactional leadership are analyzed. The results are shown in the table below. There are six items for transactional leadership. From the table, it can be found that the

overall Cronbach's Alpha reliability coefficient of transactional leadership is 0.853, indicating that transactional leadership has 6 items. The reliability of each measurement item of the leadership meets the requirements, and the overall reliability is also good, which meets the requirements of empirical analysis.

Table 4. Reliability Analysis Results of Transactional Leadership

transactional leadership	Scaled mean after removing terms	scale variance after removing terms	Corrected Item and Total Correlation	Cronbach Alpha after item deletion	Overall Cronbach Alpha
transactional leadership 1	16.27	23.854	0.516	0.850	0.853
transactional leadership 2	16.08	24.845	0.435	0.864	
transactional leadership 3	16.38	20.298	0.831	0.789	
transactional leadership 4	16.27	22.101	0.703	0.816	
transactional leadership 5	16.33	22.268	0.656	0.825	
transactional leadership 6	16.25	21.807	0.704	0.816	

Through the KMO test and Bartlett's spherical test, it was found that the KMO value of the sample was 0.800, and the significance was 0.000, indicating that the validity of the scale was good.

Table 5. Tests of the Transactional Leadership Scale, KMO, and Bartlett

KMO Sampling Suitability Quantity		0.800
Bartlett's Test of Sphericity	approximate chi-square	573.741
	degrees of freedom	15
	significance	0.000

4.3.3Analysis of the dependability and validity of superior responsiveness

The reliability and validity of the superior responsiveness were analyzed, and there were 3 items in the superior responsiveness. The results are shown in the following table. It can be found from the table that the overall Cronbach's Alpha reliability coefficient of the superior responsiveness is 0.837. The reliability of each measurement item of the superior responsiveness meets the conditions, and the overall reliability is also good, which meets the requirements of empirical analysis.

Table 6. Reliability analysis of superior responses

Superior Responsiveness	Scaled mean after removing terms	scale variance after removing terms	corrected Item and Total Correlation	Cronbach Alpha after item deletion	Overall Cronbach Alpha
Superior Responsiveness1	6.22	3.294	0.764	0.709	0.837
Superior Responsiveness2	6.24	3.765	0.663	0.810	
Superior Responsiveness3	6.32	3.362	0.678	0.798	

Table 7. Superior Responsiveness Scale, KMO, and Bartlett's Test

KMO Sampling Suitability Quantity		0.703
Bartlett's Test of Sphericity	approximate chi-square	206.172
	degrees of freedom	3
	significance	0.000

Through the KMO test and Bartlett's spherical test, it was found that the KMO value of the sample was 0.703, and the significance was 0.000, indicating that the validity of the scale was good.

4.Analysis of the dependability and validity of employee innovation behavior

The reliability and validity of employees' innovative behaviors are analyzed and analyzed, and there are 4 items of employee innovative behaviors. The results are shown in the following table. It can be found from the table that the overall Cronbach's alpha reliability coefficient of employee innovation behavior is 0.882. The reliability of each measurement item of the employee innovation behavior scale meets the conditions, and the overall reliability is also good, which is in line with the empirical analysis requirements.

Table 8. Reliability Analysis of Employee Innovation Behavior

Employee Innovation Behavior	Scaled mean after removing terms	scale variance after removing terms	corrected Item and Total Correlation	Cronbach Alpha after item deletion	Overall Cronbach Alpha
Employee Innovation Behavior 1	25.09	41.598	0.405	0.888	0.882
Employee Innovation Behavior 2	25.07	37.668	0.741	0.860	
Employee Innovation Behavior3	25.05	39.717	0.621	0.870	
Employee innovation behavior4	25.11	38.696	0.616	0.870	

Through the KMO test and Bartlett's spherical test, it was found that the KMO value of the sample was 0.878, and the significance was 0.000, indicating that the validity of the scale was good.

Table 9. Employee Innovation Behavior Scale, KMO, and Bartlett's Test

KMO Sampling Suitability Quantity		0.878
Bartlett's Test of Sphericity	approximate chi-square	862.430
	degrees of freedom	36
	significance	0.000

4.4 Analysis and testing of the mediating effect

This research adopts a stepwise regression test hypothesis model, based on the correlation analysis of each variable, controls the gender, age, education, position, working years, and company nature of employees, and uses SPSS25.0 software and the PROCESS plug-in to test transformational leadership. This study research hypothesis: the influence of superior responsiveness and employee innovative behavior; transactional leadership and superior responsiveness and employee innovative behavior; and the mediating role of superior responsiveness among transformational leadership, transactional leadership, and employee innovative behavior to test this study research hypothesis.

1) Regression analysis on the mediating effects of transformational leadership and employees' creative behavior, superior responsiveness, and superior responsiveness

Table 10. Confidence Intervals

Effect	BootSE	BootLLCI	BootulCI
0.0903	0.0342	0.0279	0.1629

According to the results of the mediation effect test in Table 3-10, the confidence interval does not contain 0, so the result is significant. a=0.1952 (p=0.007<0.05), b=0.4628 (p=0.000<0.05), c'=0.0794

(p=0.1387>0.05), c=0.1697 (p=0.0066<0.05). In conclusion, the coefficients a, b, c are significant, and c' is not significant, indicating that transformational leadership has a significant positive impact on employees' innovative behavior, transformational leadership's responsiveness to superiors, and superiors' responsiveness to employees' innovative behaviors. H1, H3, and H4 are established. Superior responsiveness plays a completely mediating role in the relationship between transformational leadership and employees' innovative behavior.

From the characteristics of transformational leaders, it can be seen that transformational leaders tend to maintain communication with employees in a timely manner, provide employees with a resource platform for innovation, and encourage innovation. Transformational leadership not only pays attention to daily activities, but in the process of superior response, it can give employees great encouragement to innovate, which is more conducive to the generation of employee innovative behavior. Therefore, superior responsiveness is a complete mediator in the relationship between transformational leadership and innovative behavior effects.

2)Regression analysis of transactional leadership's mediating effects on employee innovation behavior, superior responsiveness, and superior responsiveness

Table 11. Confidence Intervals

Effect	BootSE	BootLLCI	BootulCI
0.1243	0.0319	0.0663	0.1896

According to the results of the mediation effect test in Table 3-11, the confidence interval does not contain 0, so the result is significant. a=0.2818 (p=0.0001<0.05), b=0.4409 (p=0.000<0.05), c'=0.1278 (p=0.0211<0.05), c=0.2520 (p=0.0001<0.05). In conclusion, the coefficients a, b, c, and c' are all significant, indicating that transactional leadership has a significant positive impact on employees' innovative behavior; transactional leadership on superiors' responsiveness; and superiors' responsiveness on employees' innovative behaviors.H2, H3, H4 are established. Superior responsiveness has a partial mediating role in the relationship between transactional leadership and employees' innovative behavior.

Transactional leaders make employees clearly aware of the difficulties and challenges they may encounter when releasing work tasks and will clarify the reward and punishment mechanisms. In order to obtain the material or spiritual needs they want, employees will maintain a positive working state. Complete tasks seriously and efficiently, which will help employees to generate innovative behaviors. However, transactional leadership focuses on the completion of performance goals before and after, and the grasp of the process is not as precise as transformational leadership. Therefore, in the process of superior response, information asymmetry may occur, causing employees to encounter doubts in the work process and not be able to get feedback on time. Therefore, compared with transformational leadership, superior responsiveness is the difference between transactional leadership and employees' innovative behavior. The influence has a partial mediation effect.

4.5 Robustness Check

To test whether the conclusion is still reliable when assumptions or preconditions are changed. Therefore, a robustness test should be carried out to ensure the robustness of the conclusions.

4.5.1 Transformational leadership and employee innovation behavior

Table 12. Breusch-Pagan Test for Correction Heteroskedasticity

chi-square	degrees of freedom	significance
1.208	1	0.272

Through residual analysis, it can be seen from the above table that p>0.05, so there is no heteroscedasticity, which meets the requirements of empirical analysis.

4.5.2Transactional Leadership and employee innovation behavior

Table 13. Breusch-Pagan Test for Correction Heteroskedasticity

chi-square	degrees of freedom	significance
1.708	1	0.191

The residual analysis results show that p>0.05, so there is no heteroscedasticity, which meets the requirements of empirical analysis.

5. Conclusions and Discussion

This study starts with the relationship between leadership style and employees' innovative behavior and examines the mediating role of superior responsiveness. Based on the status quo, relevant theories, and reviewing the literature, through questionnaire collection and empirical verification, the conclusions are as follows: First, transformational leadership and transactional leadership significantly and positively influence employees' innovative behavior. Second, superior responsiveness has a complete mediating role in the relationship between transformational leadership and employees' innovative behavior; it has a partial mediating role in the relationship between transactional leadership and employees' innovative behavior.

A leader's style will have an indirect effect on employees' innovative behavior through the mediating variable of superior responsiveness in the process of telecommuting. Therefore, daily management should strengthen the self-cultivation of leaders. Managers can choose the appropriate leadership style, pay attention to the participation process of employees, provide timely feedback on requests, provide convenient conditions for employees, be good at using incentive mechanisms, stimulate employees' enthusiasm for work, and effectively improve the team. creativity and business efficiency. Existing research rarely analyzes the internal mechanism between the three that provides the superior responsiveness. This study enriches and develops the research on the internal mechanisms of leadership style and employee innovation behavior. The above conclusions will have important practical significance for enterprise management and provide reference and experience for enterprises to achieve innovative development.

References

[1] Dazhong Cheng. Growth and technological progress of China's service industry [J]. World Economy, 2003, (07): 35-42.

[2] Hui Wang, Yuting Xiao. "Other's Arsenic, My Honey": The "Double-Edged Sword" Effect of Remote Work on Employees' Innovative Behavior [J]. Soft Science: 1-16.

[3] Xingkai Liu, Cheng Zhang. Total Factor Productivity Growth and Convergence Analysis of China's Service Industry [J]. Quantitative and Technical Economic Research, 2010, 27(03): 55-67+95.

[4] Qiufeng Huang, Ningyu Tang. A meta-analytical study on the impact of transformational leadership and transactional leadership on employee innovation behavior [J]. Soft Science, 2016, 30(03): 60-64.

[5] Rujie Qu, Haiqin Kang. Research on the contingency impact of leadership behavior on employee innovation [J]. Management Review, 2014, 26(01): 88-98.

[6] Honghui Miao. The influence of transformational and transactional leadership styles on employee innovation performance [J]. Social Science Front, 2019, (12): 240-244.

[7] Burns J M. Leadership [M]. New York: Harper & Row, 1978.

[8] Amabile T M.Creativity and Innovation in Organizations[J].Harvard Business Review,1996.

[9] Scott S G, Bruce R A. Determinants of Innovative Behavior: A path Model of Individual Innovation in the Workplace [J]. Academy of Management Journal, 1994, 37(3): 580-607.

[10] Zhonglin Wen. Lei Zhang, Jietai Hou, HongyunL iu. The mediation effect test procedure and its application [J]. Acta Psychologica Sinica, 2004, (05): 614-620.