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Improve the Leadership Effectiveness of Middle Managers through Organizational Development Intervention in an International University in Heilongjiang Province

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Abstract

The purpose of this study was to clarify the Pre-ODI and Post-ODI situations regarding Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness in the Department of Economic Management. To design practical ODIs to improve these variables and subsequently enhance leadership effectiveness. To identify significant differences in these variables between Pre-ODI and Post-ODI and to measure the causal relationships among them. Both qualitative and quantitative research methods were used to compare and analyze the situations Pre-ODI and Post-ODI. Data were collected through questionnaires and focus group. This study selected 99 teachers from the Department of Economics and Management and 3 vice presidents of HIU as research samples. Quantitative data were analyzed using frequency, percentage, paired sample T-tests, and multiple linear regression analysis. Qualitative data were analyzed using content analysis. The quantitative analysis revealed significant changes in the mean values of each variable Pre-ODI and Post-ODI, demonstrating the effectiveness of the intervention. There were significant differences in Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness between Pre-ODI and Post-ODI periods. It can be concluded that each independent variable has a significant influence on the dependent variable. A causal relationship exists among them. Through qualitative data analysis, this study identifies strategies for improving the transformational leadership of middle managers.

Keywords: Moral Modeling, Vision Motivation, Leadership Charm, Individual Consideration, Leadership Effectiveness

Introduction

Transformational leadership can enhance teachers' sense of self-efficacy, enabling them to actively contribute to the progress of the university (Lili & Coman, 2020). Transformational leaders in higher education impact the innovation of educational administration and operations through the academic environment (Meng, 2022). In the context of modern university, transformation change the middle management teams of the university play a fundamental role

in the institution's reform and development. As the depth of this transformation change increases, the authentic development of the middle management team has increasingly significantly influenced the promotion of the university's transformation change.

Background of the Organization

The Department of Economic Management was established in 2003. It has 2,077 students and 99 teachers. It offers 6 undergraduate programs and 2 international cooperation programs. There are currently 16 middle managers, including the department director, deputy director, subject supervisors, and administrative supervisors.

Statement of the Problem

An analysis of the four constitutive dimensions of Transformational Leadership reveals the following issues: Some middle managers do not reach the level of moral exemplars and cannot serve as role models to guide ordinary teachers. Some middle managers lack vision planning as middle managers. They also lack motivational measures to inspire subordinates to establish a common vision. Some middle managers lack leadership charm. It is difficult for subordinates to follow them willingly. Some middle managers focus only on their work results, ignoring the personal development, family, and life of their subordinates. This leads to a working atmosphere where superiors and subordinates are indifferent to each other.

Research Objectives

This research aims to:

- 1.To clarify the Pre-ODI and Post-ODI situations of Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness in the Department of Economic Management.
- 2.To design practical ODIs aimed at improving Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration and thereby enhancing Leadership Effectiveness.
- 3.To identify significant differences in Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness between Pre-ODI and Post-ODI phases.
- 4.To examine the causal relationships among Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness.
5. To examine the qualitative difference in the perception between the Pre-ODI and Post ODI. regarding Moral modelling, Vision motivation, Leadership charm, Individualized consideration, and Leadership effectiveness.

Research Questions

- 1.What are the Pre-ODI and Post-ODI situations of Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness in the Department of Economic Management?
2. What interventions can effectively improve Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness?
3. What significant differences exist in Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness between the Pre-ODI and Post-ODI phases?
4. Is there a causal relationship among Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness?

5. Are there the qualitative difference in the perception between the Pre-ODI and Post-ODI. regarding Moral modelling, Vision motivation, Leadership charm, Individualized consideration, and Leadership effectiveness?

Significance of the study

This study provided a theoretical and empirical basis for the development of transformational leadership in the context of Chinese culture. It not only deepened the theoretical development of how to strengthen transformational leadership, Meanwhile, this study provided guidance on improving the transformational leadership abilities of middle managers in the Department of Economic Management. It also offered important reference value for middle managers in other departments of the International University. Additionally, this study served as a reference for other universities in China looking to actively promote transformational leadership strategies. In particular, we provide assistance in transformational leadership training at Chinese universities.

Literature Review & Research Framework

The Connotation of Transformational Leadership

Burns (2003) described Transformational Leadership as the movements by one or more individuals who engage with subordinates in such a way that “leaders and subordinates will rise together to a higher level of motivation and morality.” Transformational Leadership was one-way leaders could become more effective by involving and developing others, specifically followers (Neat, 2016). The above definitions were all given by Western scholars and do not take into account the differences in different cultural backgrounds. In this study, the definition of Chinese scholars was adopted. Transformational Leadership is characterized by four dimensions: Moral Modeling, Vision Motivation, Leadership Charm, and Individualized Consideration (Chaoping & Kan, 2005).

The Development of Transformational Leadership Theory in China

Bing and Guanfeng (2014) proposed that Transformational Leadership behavior had a significant influence on group creativity. Zhen et al. (2015) pointed out that Transformational Leadership had a great impact on subordinates' work engagement. Jinyun et al. (2017) suggested that Transformational Leadership had a significant positive impact on group advice, and that the group voice environment had a positive impact on group performance. Canhao and Yufeng (2018) proposed that Transformational Leadership had a substantial positive effect on organizational exploratory innovation.

Chinese scholars' research on transformational leadership behavior mainly focuses on the impact of individual leaders on the organizational climate, and lack of organizational research on transformational leadership behavior. In particular, there is a lack of empirical research on the application of transformational leadership to improve leadership effectiveness in the field of universities.

Moral Modeling

Moral modeling is a Chinese dimension, which refers to the ability of leaders to persuade others with their virtues and inspire personnel with their own charm (Jianju & Chao, 2016). Leaders can have a tremendous impact on employees' silent behavior (Zhengtang et al., 2018). Ogunfowora et al. (2021) found that leader ethical function modeling influenced morally courageous behaviors by fostering employees' ethical ownership and sense of duty to

the organization. Leaders should exhibit high-standard moral behaviors and become ethical role models for subordinates to follow (Qingquan & Huimin, 2014). The leadership of moral modeling significantly influences employees' work prosperity and innovative conduct (Weihua & Zhang, 2020). The moral modeling leadership behavior has a considerable positive effect on employees' organizational change commitment (Dongdong & Jie, 2019).

All the above points of view discussed the importance of Moral modeling and its significance to organizational development in the context of Chinese culture. But there was little empirical evidence of how big the impact was.

Vision Motivation

Vision is the imaginative and prescient description of the common goal future shaped by the leaders and individuals of the organization. Correctly formulating the same vision is conducive to group cooperation and development (Fenghua, 2021). Encouraging followers to commit to achieving organizational goals (Tae-Soo & Moon, 2023). Leaders of an organization begin by "creating a vision and strategy ". More importantly, "Communicate the Vision " the leader should use all possible communication channels to explain the vision and the imagination of the organization to subordinates (Mouazen et al., 2024). These communications are also relevant to stakeholders (Geremias et al., 2024). Thereby, enhancing overall performance (Chen et al., 2022).

University vision management can stimulate employees' drive (Hongzhuan & Haiyang, 2019). Lead instructors and students to recognize the common vision of education (Xiaoming, 2019). Building a spiritual community with a common vision (Yunhua, 2018), which can stimulate the drive of the teachers. Vision incentives have the greatest influence on instructor organizational commitment (Yuangeng, 2023).

Western scholars' research on vision motivation involves both theory and demonstration. The research of Chinese scholars focuses on the theoretical level. Lack of quantitative studies.

Leadership Charm

Leadership charm is a crucial component of a leader's quality and potential, directly reflecting their personality and ethics. Leaders with charisma can play an exemplary role (Xiaoshan, 2021). Leadership charm involves the social impact and attraction that leaders proactively generate (Yaffe & Qinghu, 2017). The charisma dimension of transformational leadership positively impacts employee innovative behavior (Jianju & Chao, 2016). Leaders can build personal character, expand knowledge, enhance performance, and improve management skills. Ultimately motivating their enthusiasm for work (Xueya, 2018).

All the above literatures emphasize the influence of leadership charisma on organizational development. However, there was no separate discussion on its impact on leadership effectiveness.

Individualized Consideration

Individualized consideration means that leaders recognize the situations and desires of employees, assist them in resolving problems, and create a harmonious and united working environment, allowing employees to fully utilize their strengths (Shitao, 2022). Transformation leaders not only care about the work of their subordinates but also about their families, resolving their worries, and letting them feel the care from both the leaders and the organization (Jianju & Chao, 2016), increase their subjective well-being (Xueya, 2018), establish good labor relationships and promote a win-win situation between employees and

corporations (Yuanqiang & Yaoping, 2017).

Individualized consideration plays an obvious role in organizations, but empirical studies were lacking in China.

Leadership Effectiveness

Leadership Effectiveness refers to the behavioral competencies, work status, and outcomes of middle managers at private universities in implementing leadership practices (Huang, 2014). In this study, Leadership Effectiveness (LE) measures the performance outcomes of middle managers in economic management departments concerning their business acumen, work status, and task achievements following the implementation of Transformational Leadership.

Middle Managers

Middle managers are supervisors who play a pivotal role as intermediaries between decision-making and executive levels (Lu, 2018). In this study, middle managers specifically refer to directors, deputy directors, secretaries, specialist leaders, party building leaders, and student service leaders within the Department of Economics and Management in HIU.

Frameworks from Related Studies and Theories

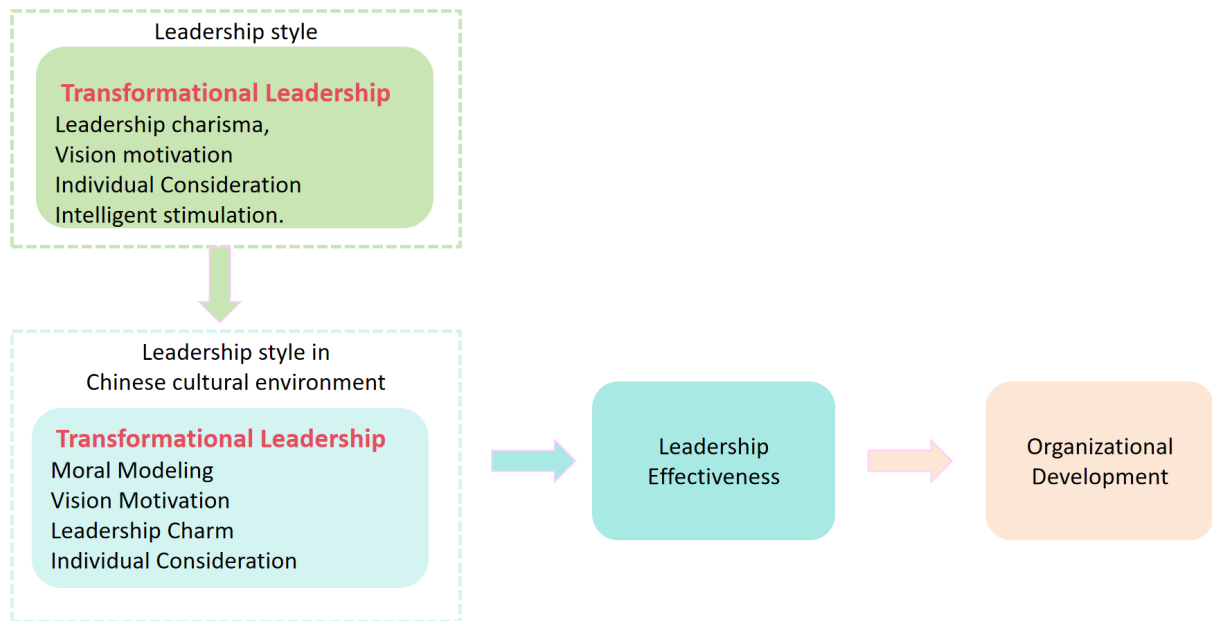
The relationship between transformational leadership and leadership effectiveness in Kenyan indigenous banks (Louw et al., 2017).

Can Dark Triad Traits in Leaders Be Associated with Positive Outcomes of Transformational Leadership: Cultural Differences? (Stelmokienė & Vadvilavičius, 2022).

Theoretical Framework

Bass (1995) believed that transformation leadership was a four-dimensional structure, including leadership charisma, vision motivation (also known as charisma), Individual Consideration and intelligent stimulation. Chaoping and Kan (2005) of Renmin University of China found through confirmatory factor analysis that although the conceptual validity of transformational leadership was supported to a certain extent, it was not ideal. Therefore, in accordance with the characteristics of Chinese collectivist culture and in the context of the Chinese corporate environment, a transformational leadership questionnaire with Chinese traits was compiled based on Bass's questionnaire. This was divided into four dimensions: moral modeling, vision motivation, leadership charm, and individualized consideration.

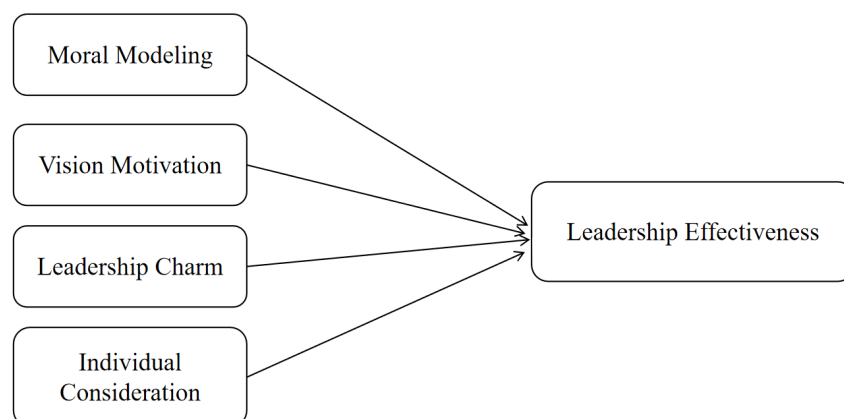
The theoretical framework of this study was shown in Figure 1:

Figure 1*Theoretical Framework*

Sources: 1. Bass (1995). Theory of transformational leadership redux. *Leadership Quarterly*. 2. Chaoping and Kan (2005). The structure and measurement of transformational leadership.

Conceptual Framework

Utilizing the concept of Transformational Leadership with its four dimensions as independent variables and leadership effectiveness as the dependent variable, the conceptual framework of this study is constructed as shown in Figure 2.

Figure 2*Conceptual framework*

Research hypotheses

The following hypotheses are based on the conceptual framework of the study:

H1: There is a significant difference between the Pre-ODI and Post-ODI situations of Moral Modeling.

H2: There is a significant difference between the Pre-ODI and Post-ODI situations of Vision Motivation.

H3: There is a significant difference between the Pre-ODI and Post-ODI situations of Leadership Charm.

H4: There is a significant difference between the Pre-ODI and Post-ODI situations of Individual Consideration.

H5: There is a significant difference between the Pre-ODI and Post-ODI situations of Leadership Effectiveness.

H6: Moral Modeling has significant influence on Leadership Effectiveness.

H7: Vision Motivation has significant influence on Leadership Effectiveness.

H8: Leadership Charm has significant influence on Leadership Effectiveness.

H9: Individual Consideration has significant influence on Leadership Effectiveness.

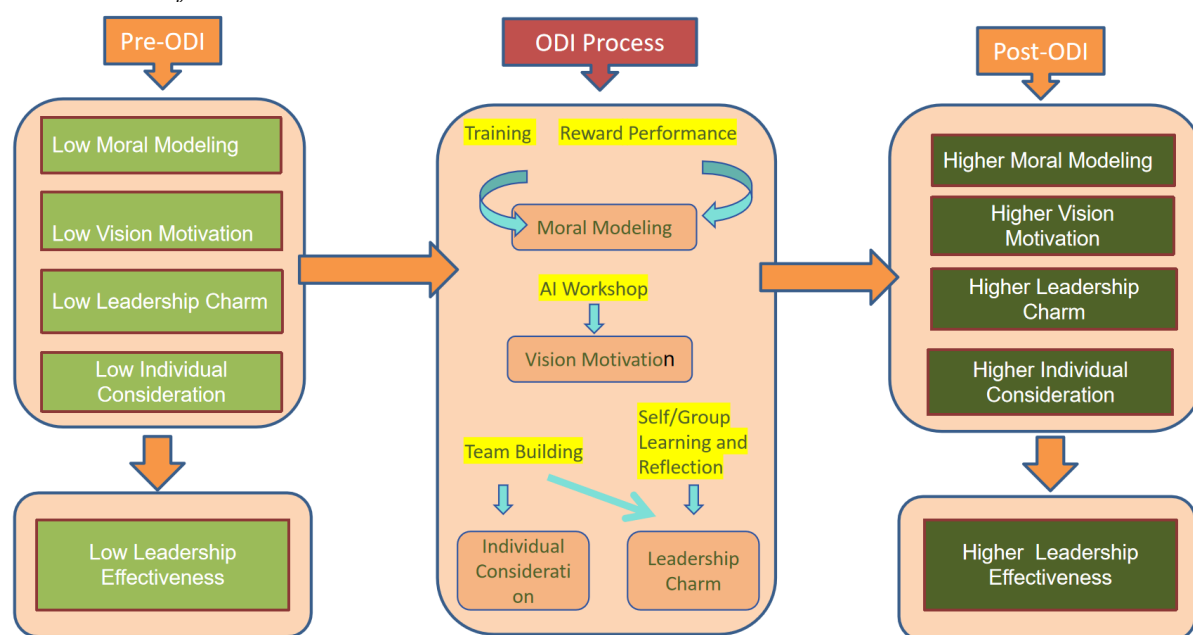
H10: There are the qualitative difference in the perception between the Pre-ODI and Post-ODI. regarding Moral modelling, Vision motivation, Leadership charm, Individualized consideration, and Leadership effectiveness.

Action Research Framework

This research adopts the action research method. Action research combines data gathering with action implementation through a reflective cycle, allowing researcher to collect and analyze data that informs subsequent actions (Bradbury, 2015). The action research framework for this study was shown in Figure 3.

Figure 3

Action research framework



Research Methodology

Research Design

This study adopts two methods: quantitative research and qualitative research. The quantitative research aims to evaluate the moral model, vision motivation, leadership charisma, personal consideration and leadership effectiveness of middle managers in the department of Economic management and the relationship between them. The qualitative research aims to gain a deeper understanding of their perception of transformational leadership and the improvement strategies to enhance leadership effectiveness. The quantitative study adopts the method of population census. The sample included 99 full-time and part-time faculty members in the Department of Economics and Management. There are also three vice-chancellors, for a total of 102. It can fully reflect the most real situation. The sample of qualitative research adopts stratified sampling method, and 1 person is selected from senior managers, 6 from middle managers, and 2 from basic teachers, totaling 9 people. These 9 individuals were chosen because they have worked long hours, have extensive leadership experience, have extensive teaching experience, and they can represent the opinions and suggestions of the 102 respondents.

Research Instruments

Quantitative Research Instrument

The design of the online questionnaire consisted of two parts. The first part covered the demographic data of the respondents. The second part included questions related to the variables of Pre-ODI and Post-ODI, which were answered by the respondents. The questionnaire used a 5-point Likert scale. There were five grades from "Very Disagree" to "Very Agree" that were used as the basis for evaluating the variable problem description.

Qualitative Research Instrument

Focus group interview questions for Pre-ODI and Post-ODI:

1. What activities or strategies have improved your Moral Modeling?
2. How do you use Vision Motivation for subordinates?
3. What activities or strategies have improved your Leadership Charm?
4. What Individual Consideration methods have you learned?
5. What new help do you need to improve leadership effectiveness?

Focus group interview questions to discover qualitative difference for Pre-ODI and Post-ODI:

1. How do you feel about your Moral Modelling?
2. How do you feel about your Vision Motivation?
3. How do you feel about your Leadership Charm?
4. How do you feel about your Individualized Consideration?
5. How do you feel about Leadership Effectiveness in the department of economic management?

Nine key middle managers participated in this focus group interview. The data from this qualitative research tool was analyzed by content analysis using three coders.

Data Analysis

Quantitative data analysis

1. Descriptive Analysis: Assessment of Pre-ODI and Post-ODI Situations: Based on means and standard deviation.
2. Paired Sample T-Test: Assess the significant differences between Pre-ODI and Post-

ODI situations using a paired sample t-test.

3. Inferential Statistics: Use multiple linear regression to determine the causal relationship (significant influence) between dependent and independent variables.

4. Cronbach's Alpha: Determine the reliability of each question in the questionnaire through a pilot test.

5. Item Objective Congruence: Determine the validity of the research instruments.

Qualitative data analysis

Nine key personnel participated in the focus group interviews. The qualitative data were analyzed using content analysis by three coders

Coder 1: Liyan Chen (Researcher)

Coder 2: Richard Guo, Doctor of Organization Development.

Coder 3: Zhuangyan Wang, Doctor of Organization Development.

ODI Process

The OD intervention process aimed to identify reasonable and effective measures to improve Leadership Effectiveness. Through the analysis of the Pre-ODI phase, the researcher identified four main variables affecting Leadership Effectiveness. During the ODI phase, detailed implementation steps for each intervention were described. The intervention lasted for 3 months. This study used "Training and Reward Performance" to intervene with 16 middle managers in the Department of Economic Management to enhance their "Moral Modeling." Additionally, an "AI Workshop" was utilized to improve their "Vision Motivation." By organizing "Self/Group Learning and Reflection" and conducting "Team Building" simultaneously, the "Leadership Charm" of these 16 middle managers was improved. "Team Building" was also used to enhance the "Individual Consideration" of the same group. By designing and implementing these interventions for each independent variable, the goal of improving "Leadership Effectiveness" was achieved.

Results and Discussion

Reliability Testing

This section presents the Cronbach's Alpha results from the reliability test conducted with a pilot sample of 30 respondents. Cronbach's Alpha values for all variables are greater than 0.7, indicating that the internal consistency of each factor in the questionnaire is reliable.

The results of Item Objective Congruence

Five experts provided their opinions and recommendations for the IOC. The results for each question met the IOC standard value (>0.66). The overall IOC results met the requirements.

Descriptive analysis of quantitative data

Descriptive Analysis of Quantitative Data - Pre-ODI and Post-ODI Situation

Table 1*The Results of Descriptive Statistics for All Pre-ODI and Post-ODI Variables*

Factors	n	Pre-ODI Situation	Post-ODI Situation
		M	M
Moral Modeling (MM)	102	3.18	4.44
Vision Motivation (VM)	102	3.16	4.37
Leadership Charm (LC)	102	3.12	4.41
Individual Consideration (IC)	102	3.15	4.33
Leadership Effectiveness (LE)	102	3.23	4.46

It could be seen from the table that the Pre-ODI status of Leadership Effectiveness was the highest, with a mean value of 3.23, it was “Not sure”. The mean value of Leadership Charm was the lowest, at 3.12, it was “Not sure” observed as practiced.

It could be seen from the table that the post-ODI status of Leadership Effectiveness had the highest mean value, at 4.46. The mean value of Individual Consideration was the lowest, at 4.33. The results indicate that respondents “Very Agree” with all Post-ODI situation variables

Table 2*The Results of Descriptive Statistics for Pre-ODI and Post-ODI Moral Modeling*

Factors	n	Pre-ODI Situation	Post-ODI Situation
		M	M
I am honest in performing my duties. (MM1)	102	3.20	4.55
I can handle difficulties in my task. (MM2)	102	3.18	4.36
I work hard regardless of benefits. (MM3)	102	3.15	4.35
I am considerate of my subordinates ‘weaknesses. (MM4)	102	3.17	4.48

For Pre-ODI, according to the table, the mean value of MM1 was the highest at 3.20, as being observed as “Not sure”. The mean value of MM3 was the lowest at 3.15, it was perceived as “Not sure” but observed as practiced.

For Post-ODI, according to the table, the statement MM1 had the highest mean value, which was 4.55. In contrast, the statement MM3 had the lowest mean value at 4.35. These results indicated that respondents currently perceive them as being “Very Agree”.

Table 3*The Results of Descriptive Statistics for Pre-ODI and Post-ODI Vision Motivation*

Factors	<i>n</i>	<i>Pre-ODI Situation</i>	<i>Post-ODI Situation</i>
		<i>M</i>	<i>M</i>
I have a clear understanding of the unit/department's development prospects. (VM1)	102	3.17	4.42
I effectively communicate the business philosophy and development objectives of the unit/department to all faculty and staff members. (VM2)	102	3.12	4.37
I have been provided with a clear explanation that demonstrate show my work aligns with and contributes to the vision motivation of the department or unit. (VM3)	102	3.18	4.43
I have felt inspired by the specific and tangible depiction of promising future for everyone within the department or unit. (VM4)	102	3.14	4.32
I have received clear guidance from middle managers in the Department of Economic Management regarding goals and direction. (VM5)	102	3.21	4.34
I engage in discussions about the impact of my work on the unit/department's overall objectives. (VM6)	102	3.11	4.32

For Pre-ODI, according to the table, the mean value for VM5 was the highest at 3.21. It was observed as “Not sure”. The mean value for VM6 was the lowest at 3.11. It was also observed as “Not sure” but considered as practiced.

For Post-ODI, the mean value of the statement, VM3 was the highest at 4.43. It was viewed as “Very Agree”. In contrast, the mean values for VM4 and VM6 were the lowest, at 4.32. They were also rated as “Very Agree” but to a slightly lesser extent.

Table 4*The Results of Descriptive Statistics for Pre-ODI and Post-ODI Leadership Charm*

Factors	<i>n</i>	<i>Pre-ODI Situation</i>	<i>Post-ODI Situation</i>
		<i>M</i>	<i>M</i>
I possess business ability suitable for my job task. (LC1)	102	3.28	4.46
I am open to innovation. (LC2)	102	3.03	4.23
I possess an entrepreneurial spirit related to my work. (LC3)	102	2.97	4.42
I am consistently committed to my work. (LC4)	102	3.22	4.65

Factors	<i>n</i>	<i>Pre-ODI</i> Situation	<i>Post-ODI</i> Situation
		<i>M</i>	<i>M</i>
I engage in proactive learning for self-improvement. (LC5)	102	3.22	4.43
I am capable of effective risk management. (LC6)	102	3.00	4.25

For Pre-ODI, according to the table, the highest mean of LC1 was 3.28. It was observed as “Not sure”. The lowest mean of LC3 was 2.97. It was observed as “Not sure” as well.

For Post-ODI, according to the table, the statement LC4 had the highest mean value of 4.65, while LC2 had the lowest mean value of 4.23. These results indicated that, currently, respondents perceive LC4 as "Very Agree," whereas LC2 was perceived as "Agree. "

Table 5

The Results of Descriptive Statistics for Pre-ODI and Post-ODI Individual Consideration

Factors	<i>n</i>	<i>Pre-ODI</i> Situation	<i>Post-ODI</i> Situation
		<i>M</i>	<i>M</i>
I consider the actual situation of my subordinates when interacting with them. (IC1)	102	3.16	4.31
I assist my subordinates in resolving life and family-related issues. (IC2)	102	2.93	4.25
I communicate with my subordinates regularly to know their work, life and family situation. (IC3)	102	3.08	4.28
I patiently address questions from my subordinates. (IC4)	102	3.27	4.28
I prioritize creating opportunities for my subordinates to utilize their unique skills and talents. (IC5)	102	3.30	4.49

For Pre-ODI, according to the table, the highest mean value was 3.30 for the statement of IC5. This means “Not sure” in practice. The lowest mean value was 2.93 for the statement of IC2. It was also perceived as “Not sure”.

For Post-ODI, according to the table, the mean value for IC5 was the highest at 4.49, while the mean value for IC2 was the lowest at 4.25. These results indicated that respondents perceive them as "Very Agree".

Table 6*The Results of Descriptive Statistics for Pre-ODI and Post-ODI Leadership Effectiveness*

Factors	<i>n</i>	<i>Pre-ODI</i> Situation	<i>Post-ODI</i> Situation
		<i>M</i>	<i>M</i>
I am equipped with the knowledge, skills, and abilities needed to fulfill my leadership responsibilities effectively. (LE1)	102	3.25	4.54
I complete my tasks within designated time frames. (LE2)	102	3.24	4.57
I ensure the smooth operation of the Department of Economics and Management. (LE3)	102	3.25	4.38
I made significant contributions to improving the department's development. (LE4)	102	3.27	4.43
I played a key role in enhancing the quality of teaching and research. (LE5)	102	3.20	4.35
I actively supported efforts to boost enrollment. (LE6)	102	3.28	4.45
I enhance the department's social impact. (LE7)	102	3.14	4.29
I prioritize actions that enhance the prestige of the school. (LE8)	102	3.28	4.57
I focus on nurturing talents that can positively impact societal development of the Department of Economics and Management. (LE9A)	102	3.20	4.54

For Pre-ODI, according to the table, the highest mean value of LE6 and LE8 were 3.28. The lowest mean value was 3.14 for LE7. These results indicated that in the Pre-ODI phase, respondents perceive LE6, LE8 and LE7 as “Not sure”.

For Post-ODI, according to the table, LE2 and LE8 had the highest mean value of 4.57. LE7 had the lowest mean value at 4.29. These results indicated that respondents currently perceive LE2 and LE8 as “Very Agree.” In contrast, LE7 was perceived as “Agree.”

Paired sample T-test results

Table 7

Paired sample t- test for all variables

variables		Pairwise difference			t	df	Sig.(Bilateral)
		M	SD	Standard error of the mean			
Pair 1	MMB - MMA	1.25490	.47327	.04686	26.779	101	.000
Pair 2	VMB - VMA	1.20752	.64675	.06404	18.856	101	.000
Pair 3	LCB - LCA	1.28105	.70865	.07017	18.257	101	.000
Pair 4	ICB - ICA	1.17255	.72469	.07176	16.341	101	.000
Pair 5	LEB - LEA	1.22004	.67721	.06705	18.195	101	.000

Table 7 showed that the Sig. values of the differences between the five pairs of means are all less than 0.05, indicating that these mean differences are statistically significant. Among them, the t-value for Pair 1 is the largest, at 26.779, which suggests that the difference in the sample mean for Moral Modeling between the two groups Pre-ODI and Post-ODI is the most pronounced. The t-value for Pair 4 is the smallest, at 16.341, indicating that the difference in Individual Consideration between the two groups is the smallest.

Hypotheses Testing Results (H1-H5)

According to Table 7, the results of the paired sample tests can be analyzed as follows:

H1: The mean difference between MMB and MMA was 1.25490. The corresponding p-value was $0.000 < 0.05$. Therefore, it could be concluded that there was a significant difference between the Pre-ODI and Post-ODI situations of Moral Modeling.

H2: The mean difference between VMB and VMA was 1.20752. The corresponding p-value was $0.000 < 0.05$. Therefore, it could be concluded that there was a significant difference between the Pre-ODI and Post-ODI situations of Vision Motivation.

H3: The mean difference between LCB and LCA was 1.28105. The corresponding p-value is $0.001 < 0.05$. Therefore, it could be concluded that there was a significant difference between the Pre-ODI and Post-ODI situations of Leadership Charm.

H4: The mean difference between ICB and ICA was 1.17255. The corresponding p-value was $0.000 < 0.05$. Therefore, it could be concluded that there was a significant difference between the Pre-ODI and Post-ODI situations of Individual Consideration.

H5: The mean difference between LEB and LEA was 1.22004. The corresponding p-value was $0.001 < 0.05$. Therefore, it could be concluded that there was a significant difference between the Pre-ODI and Post-ODI situations of Leadership Effectiveness.

Multiple Linear Regression Analysis Results

Table 8

Conclusions of multiple linear regression analysis - Pre-ODI results and Post-ODI results

Variables	Variables of Pre-ODI	P value of Pre-ODI	Variables of Post-ODI	P value of Post-ODI	Conclusion (Support or not support based on p value <.05
Independent variables	MMA	0.032	MMB	0.022	Support H6
	VMA	0.017	VMB	0.000	Support H7
	LCA	0.000	LCB	0.000	Support H8
	ICA	0.005	ICB	0.030	Support H9
Dependent variable	LEA		LEB		

Table 8 showed that in the multiple linear regression analysis, the p-values of all independent variables were less than 0.05, both Pre-ODI and Post-ODI. It could be concluded that each independent variable had a significant influence on the dependent variable, whether Pre-ODI and Post ODI. There was a causal relationship among Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration, and Leadership Effectiveness.

Hypotheses Testing Results (H6-H9)

According to Table 8, the results of the multiple linear regression analysis could be summarized as follows:

H6: The p-value for MMA was 0.032 (<0.05), and the p-value for MMB was 0.022 (<0.05). Thus, it could be concluded that the hypothesis "Moral Modeling as an independent variable has a significant influence on Leadership Effectiveness as a dependent variable" was supported.

H7: The p-value for VMA was 0.017 (<0.05), and the p-value for VMB was 0.000 (<0.05). Therefore, it could be concluded that the hypothesis "Vision Motivation as an independent variable has a significant influence on Leadership Effectiveness as a dependent variable" was supported.

H8: The p-value for LCA was 0.000 (<0.05), and the p-value for LCB was 0.000 (<0.05). Hence, it could be concluded that the hypothesis "Leadership Charm as an independent variable has a significant influence on Leadership Effectiveness as a dependent variable" was supported.

H9: The p-value for ICA was 0.005 (<0.05), and the p-value for ICB was 0.003 (<0.05). Thus, it could be concluded that the hypothesis "Individual Consideration as an independent variable has a significant influence on Leadership Effectiveness as a dependent variable" was supported.

Qualitative Data Results–Focus group interview

Two focus group interviews were conducted Pre-ODI and Post-ODI to collect data on five questions, and two common results were sorted out by content analysis. Through these analyses, the main strategies for improving transformational leadership behavior and leadership effectiveness were identified.

1. What activities or strategies have improved your Moral Modeling?
 - A. Training
 - B. Reward performance
 - C. Self-reflection
 - D. Continuous learning theory and institutions
2. How do you use Vision Motivation for subordinates?
 - A. AI Workshop
 - B. Establish clear vision direction
 - C. Training and ideological guidance
 - D. Exchange and communication
3. What activities or strategies have improved your Leadership Charm?
 - A. Self/group learning and reflection
 - B. Team building
 - C. Professional guidance
 - D. Master communication skills
 - E. Establish good interpersonal relationships
 - F. Motivate team members
4. What Individual Consideration methods have you learned?
 - A. Provide development opportunities
 - B. Strengthen communication and feedback
 - C. Guide new young teachers
 - D. Team building
 - E. Training
5. What new help do you need to improve leadership effectiveness?
 - A. Strengthen learning and improve knowledge structure
 - B. Track leadership development progress
 - C. Create an environment encouraging creativity and innovation
 - D. Appreciation and reward
 - E. Education and training, more creative time and cross-training opportunities
 - F. Develop skills and build a leadership culture
 - G. Continue to learn and innovate

There was another set of questions about qualitative research used in focus interviews that were summarized below:

Question 1. How do you feel about your Moral Modelling?

3 coders analyzed the questions answered by the 9 people and concluded that in the Pre-ODI stage, middle managers had a low ability of moral modeling. They did not fully know the standards of moral modeling, and they were not sure whether they could be role models for ordinary teachers. They need training and performance incentives to improve moral behavior.

3 coders analyzed the questions answered by the 9 people and concluded that the moral modeling ability was greatly improved in the Post-ODI stage. They had learned the standard of moral role models, and they were sure that they could be role models for ordinary teachers.

Question 2. How do you feel about your Vision Motivation?

3 coders analyzed the questions answered by the 9 people and concluded that in the Pre-ODI stage, middle managers had a low ability to motivate their subordinates with vision. They knew that vision incentive was effective, but they did not know how to use vision incentive to motivate their subordinates.

3 coders analyzed the questions answered by the 9 people, and concluded that in the Post-ODI

stage, the middle managers had a great improvement in the incentive ability to their subordinates. They knew that vision motivation works. They knew how to use vision motivation to motivate their subordinates.

Question 3. How do you feel about your Leadership Charm?

3 coders analyzed the questions answered by 9 people and concluded that in the Pre-ODI stage, except for one middle manager, the others generally felt that they lacked leadership charm. They needed to improve their leadership charm so as to guide their subordinates to work actively.

3 coders analyzed the questions answered by the 9 participants and concluded that in the Post-ODI stage, people generally felt that they had improved their leadership charisma. They began to try to use their own leadership charm to guide subordinates to work actively.

Question 4. How do you feel about your Individualized Consideration?

3 coders analyzed the questions answered by the 9 people and concluded that in the Pre-ODI stage, middle managers paid more attention to the work itself than to the lives and families of their subordinates. They understood that Individualized Consideration was good, but they didn't do enough. They need to improve their ability to Individualized Consideration. 3 coders analyzed the questions answered by the 9 people and concluded that in the Post-ODI stage, middle managers learned how to care about the lives and families of their subordinates. They knew that individual consideration was good, and they gave more care to their subordinates.

Question 5. How do you feel about Leadership Effectiveness in the department of economic management ?

3 coders analyzed the questions answered by the 9 people and concluded that in the Pre-ODI stage, the middle managers paid attention to various evaluation indicators of leadership effectiveness. According to the answer results of each index, the leadership effectiveness of the middle managers was low, and it was necessary to strengthen intervention to effectively improve it.

3 coders analyzed the questions answered by the 9 people, and concluded that in the Post-ODI stage, middle managers paid more attention to various evaluation indicators of leadership effectiveness. The leadership effectiveness of middle managers in economic management departments was higher.

Hypotheses Testing Results (H10)

According to the analysis of "Focus group interview questions to discover qualitative difference", showed the changes of each variable in Pre-ODI and Post-ODI. It could be concluded that: "H10. There are the qualitative difference in the perception between the Pre-ODI and Post-ODI. regarding Moral modelling, Vision motivation, Leadership charm, Individualized consideration, and Leadership effectiveness "was supported.

Conclusion and Recommendations

Summary of Findings

The quantitative and qualitative analysis revealed significant changes in the mean values of each variable Pre-ODI and Post-ODI, demonstrating the effectiveness of the intervention. Among them, the mean change of Leadership Charm is the largest, with a mean difference of 1.28. The smallest variation in mean (mean difference 1.17) was the Individual Consideration. There were significant differences in Moral Modeling, Vision Motivation, Leadership Charm, Individualized Consideration and Leadership Effectiveness between Pre-

ODI and Post-ODI periods. It could be concluded that each independent variable had a significant influence on the dependent variable. Through multiple linear regression analysis, it was found that the P-values of the four independent variables were all less than 0.05. A causal relationship existed among Moral Modeling, Vision Motivation, Leadership Charm, Individual Consideration, and Leadership Effectiveness. Through qualitative data analysis, finds out 26 strategies for improving the transformational leadership.

Recommendation based on the findings

1. Suggestions for OD Intervention on Improving Transformational Leadership
 - 1)Continue using OD intervention strategies to address the four dimensions to continuously improve leadership effectiveness.
 - 2)Continuously study leadership changes and adjust intervention strategies as needed.
 - 3)Expand the scope of intervention.
2. Suggestions for Middle Managers
 - 1)Actively learn transformational leadership and other leadership theories to improve leadership effectiveness.
 - 2)Proactively cooperate with organizational interventions.
 - 3)Transition from "manager" to "leader".
3. Recommendations for the Department of Economic Management

Strengthen team building within the department to foster a positive organizational culture.
4. Recommendations for HIU

Improve the university's overall leadership level by enhancing the administrators' leadership for change, and lead grassroots faculty to jointly achieve HIU's vision and goals.
5. Recommendations for higher education in China

Pay more attention to the research of leadership, and apply transformational leadership to higher education to improve the overall level of China's higher education.

Suggestions for Further Studies

Future research can aim to uncover the nature and root causes of the problem, leading to a more comprehensive understanding of transformational leadership and providing more effective solutions for improving leadership effectiveness. We can try to apply new methods and technologies to study the changes more comprehensively and deeply, and improve the accuracy and reliability of the research. For example, we can try to use big data analytic, machine learning and other methods to process and interpret research data to discover deeper correlations and patterns. Future research can try to combine knowledge and concepts from multiple fields to form an interdisciplinary research model. This can broaden the research horizon and provide new ideas and methods for solving complex problems.

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