



# Leadership Dimension Factors Among University Administrators Affecting Instructors' Job Satisfaction in a Technology University in China

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**Abstract:** This study explores leadership dimensions among university administrators and their impact on instructors' job satisfaction in a Chinese technology university, specifically Hubei University of Technology. Against the backdrop of China's rapid growth in higher education and challenges unique to technology-focused institutions, the research investigates the role of leadership in shaping the academic environment. Employing a quantitative research approach, a cross-sectional survey design with 340 respondents was used, along with a comprehensive questionnaire based on the Transformational Leadership Theory. Positive trends in job satisfaction, especially in Teaching and Research Opportunities, Work Environment, and Leadership Support, are revealed. Transformational leadership factors, including idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, show strong positive correlations with job satisfaction. Despite commendable overall satisfaction levels, attention is needed to address concerns raised by a minority of instructors reporting significant dissatisfaction. The findings contribute insights into effective leadership practices within Chinese technology universities, offering actionable recommendations for administrators, policymakers, and academic leaders. The study concludes by outlining implications for enhancing leadership practices, fostering instructor satisfaction, and promoting the success of technology-focused educational institutions in China and beyond.

**Keywords:** Leadership Dimension Factors, Job Satisfaction, University Administrators, Transformational Leadership, Higher Education

## I. Introduction

### 1.1 Background

China has witnessed unprecedented growth in its higher education sector over the past few decades. The country's commitment to education and research has positioned it as a global leader in academia. As the demand for skilled professionals continues to rise, universities play a pivotal role in shaping the future workforce. In this dynamic landscape, understanding the factors influencing the effectiveness of higher education institutions becomes crucial<sup>[1]</sup>.

Leadership within academic institutions is widely acknowledged as a critical determinant of organizational success. Effective leadership fosters a positive environment, encourages innovation, and plays a pivotal role in attracting and retaining qualified faculty members. In the context of universities, leadership is not only about administrative tasks but also about inspiring and guiding the academic community toward shared goals. The impact of leadership extends beyond administrative functions and significantly influences the quality of education and the overall experience of both students and faculty<sup>[2]</sup>.

Technology universities, in particular, face distinctive challenges that necessitate a nuanced approach to leadership. These institutions are at the forefront of technological advancements, often serving as hubs for research and innovation. The rapid pace of change in technology and the evolving needs of industries place additional demands on both administrators and instructors. Balancing academic rigor with the practical applications of technology requires adaptive leadership that understands the unique challenges and opportunities within these institutions<sup>[3]</sup>.

In light of these considerations, this study aims to delve into the leadership dimension factors among university administrators in a specific context: a technology university in China. By focusing on the Hubei University of Technology, this study hopes to uncover insights that contribute to the broader understanding of effective leadership in the dynamic landscape of Chinese higher education.

### 1.2 Purpose of the Study

#### 1.2.1. To Identify and Analyze Leadership Dimension Factors

The primary objective of this study is to identify and analyze the leadership dimension factors among university administrators in the context of a technology university in China. By delving into the specific leadership practices and behaviors exhibited by administrators, the study aims to provide a comprehensive framework that elucidates the key factors influencing the leadership landscape in these institutions.

#### 1.2.2. To Examine Their Impact on Instructors' Job Satisfaction

Building on the identified leadership dimension factors, the study seeks to examine their direct and indirect impact on instructors' job satisfaction. By establishing correlations and causal relationships, the study hopes to unravel the intricate dynamics between leadership practices and the overall satisfaction of instructors within the chosen academic setting.

#### 1.2.3. To Contribute to the Understanding of Effective Leadership in Technology Universities in China



This study aspires to contribute to the academic discourse on leadership in technology universities in China. Through empirical evidence gathered from the Hubei University of Technology, the author hopes to offer insights that not only enhance the understanding of leadership dynamics but also provide practical recommendations for administrators, policymakers, and academic leaders striving to create an environment conducive to instructors' job satisfaction and, consequently, the success of the institution.

### 1.3. Research Questions

1. What are the key leadership dimension factors affecting instructors' job satisfaction?
2. How do these factors differ among university administrators in a technology university in China?

## II. Literature Review

Several studies have contributed to the understanding of leadership in higher education, each shedding light on various facets of leadership effectiveness and organizational dynamics. Allan et al.<sup>[4]</sup> conducted an analysis of 103 articles published by *The Chronicle of Higher Education* between 2002 and 2003, revealing four predominant discourses—autonomy, relatedness, masculinity, and professionalism—that shape images of leaders in higher education. This examination demonstrates the nuanced ways in which discourses of leadership both reflect and produce particular perceptions about leaders.

Bryman<sup>[5]</sup> conducted a literature review focused on leadership effectiveness at the departmental level in higher education. This review highlighted the scarcity of systematic research on the association between forms of leadership and departmental effectiveness. The exploration of leadership at the departmental level adds valuable insights to the broader discourse on leadership effectiveness in higher education. Gosling et al.<sup>[6]</sup> critically examined the concept of 'distributed leadership' and its rhetorical function in higher education institutions. Their analysis underscores the significant contributions of this concept to the accomplishment of leadership in sectors like higher education, despite recent questioning of its explanatory utility. Ameijde et al.<sup>[7]</sup> reported on a qualitative study investigating distributed patterns of leadership in project teams within a Higher Education institution. The study focused on both the 'what' and the 'how' of distributed leadership, providing a comprehensive account of its nature and the factors influencing its occurrence and effectiveness in higher education settings. Bryman et al.<sup>[8]</sup> conducted interviews with leadership researchers to identify effective and ineffective forms of leadership in higher education institutions. Their findings revealed a diversity of leadership forms, with no single type standing out as universally effective. This study adds to the nuanced understanding of leadership dynamics within higher education.

In terms of job satisfaction, Smart et al. conducted an initial exploration into the potential use of the Job Descriptive Index (JDI) as an instrument for measuring job satisfaction in higher learning institutions<sup>[9]</sup>. The findings of this study were discussed in terms of their implications for future research on job satisfaction within the academic community and across different organizational settings. This early effort laid the groundwork for further investigations into the measurement of job satisfaction. Free<sup>[10]</sup> proposed and tested a model of work satisfaction using a sample of females employed in nonindustrial settings. The model, analyzed through nonlinear iterative partial least squares (PLS), explained nearly 33% of the variance in job satisfaction. Notably, objective measures of opportunity accounted for less than 2% of this variance. This study contributes to the understanding of work satisfaction dynamics in nonindustrial settings.

Lounsbury et al.<sup>[11]</sup> developed and validated a personality measure of Work Drive, focusing on individuals in diverse settings. Drawing from six studies involving 23,823 individuals, the research explored the construct validity of Work Drive, including its relationship with work values, job involvement, normal personality scales, satisfaction measures, and cognitive ability. This personality measure provides insights into the disposition to work long hours and extend oneself for one's job. Spalter-Roth<sup>[12]</sup> investigated the relationship between historically agreed-upon professional characteristics, such as the use of specialized knowledge, autonomy, ethical norms, and basic research, and overall job satisfaction. The findings suggested that while professional characteristics were not significantly associated with satisfaction with economic security, sector, occupation, and age cohort played significant roles in influencing economic security satisfaction. Klassen et al.<sup>[13]</sup> explored the associations between teachers' collective efficacy (TCE), job stress, and the cultural dimension of collectivism with job satisfaction. The study involved 500 teachers from Canada, Korea, and the United States. Job stress was found to be negatively related to job satisfaction for North American teachers, while the cultural dimension of collectivism was significantly related to job satisfaction for Korean teachers but not for North American teachers.

## III. Theoretical Framework

Transformational Leadership Theory is a leadership style and theoretical framework that was initially introduced by James V. Downton and later expanded upon by James M. Burns and Bernard M. Bass. It is rooted in the idea that effective leaders can inspire and motivate their followers to achieve beyond their individual capabilities and expectations. This theory comprises several key components, including idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, as can be seen in Figure 1.

The rationale for employing the Transformational Leadership Theory in this study is rooted in essential considerations. Firstly, as technology universities are hubs for innovation, the theory's emphasis on inspirational motivation and intellectual stimulation aligns with the need to encourage faculty to embrace technological advancements in teaching and research. Secondly, the theory's proven ability to motivate and inspire followers is particularly relevant in the academic setting, where job satisfaction is closely linked to motivation. The study explores how these transformational leadership

practices impact instructors' job satisfaction in the chosen university. Additionally, the theory's adaptability to diverse cultural contexts is crucial in the Chinese university setting, where values of collectivism, harmony, and mutual trust are integral. The comprehensive framework of the Transformational Leadership Theory, encompassing charisma, intellectual stimulation, and individualized consideration, provides a nuanced understanding of leadership practices extending beyond administrative roles. Lastly, the theory's extensive empirical validity, supported by numerous studies across various

industries and cultural contexts, strengthens the study's credibility, affirming its relevance in examining leadership's impact on organizational outcomes, including employee satisfaction and performance.

Figure 1, Transformational Leadership Theory ( Source: Simply Psychology)



#### IV. Methodology

##### A. Research Design

###### Quantitative Approach:

This study employs a quantitative research approach to systematically collect and analyze numerical data. Quantitative methods allow for statistical analysis, providing objective insights into the relationships between variables.

##### B. Population and Sample

Definition of the Population (Hubei University of Technology):

The population of interest for this study comprises all instructors at Hubei

University of Technology, representing a diverse group engaged in various disciplines within the technology university.

Sampling Technique and Size (340 Respondents):

The study employs stratified random sampling to ensure representation across different departments and academic levels. The sample size of 340 respondents is determined to achieve a balance between statistical reliability and practical feasibility, considering the scope of the study.

##### C. Data Collection

Development of Survey Questionnaire:

A comprehensive survey questionnaire is designed to gather information on leadership dimension factors and instructors' job satisfaction. The questionnaire is developed based on the key components of the Transformational Leadership Theory and validated measures of job satisfaction adapted to the academic context.

Administration of the Survey:

The survey is administered electronically to ensure efficiency and reach a wide audience. Informed consent is obtained from participants, and confidentiality of responses is assured. The questionnaire includes a mix of closed-ended and Likert scale questions, allowing for both quantitative and qualitative insights.

##### D. Data Analysis

Statistical Methods for Analyzing Leadership Dimension Factors:

Descriptive statistics, including means and standard deviations, will be used to summarize the data on leadership dimension factors. To identify significant leadership dimension factors, inferential statistics such as factor analysis or regression analysis may be applied.

Techniques for Assessing the Relationship with Instructors' Job Satisfaction:

Correlation analysis will be employed to assess the strength and direction of relationships between leadership dimension factors and instructors' job satisfaction. Additionally, multiple regression analysis may be conducted to identify the relative impact of different leadership dimension factors on job satisfaction.

#### V. Results and Discussion.

Table 1: Demographic Information

Demographic Information	Respondents (%)
Gender	
- Male	120 (35.3%)
- Female	200 (58.8%)
- Prefer not to say	20 (5.9%)

Age Range	
- 25-34	80 (23.5%)
- 35-44	120 (35.3%)
- 45-54	80 (23.5%)
- 55 and above	60 (17.7%)
Years of Teaching	
- 1-5 years	90 (26.5%)
- 6-10 years	100 (29.4%)
- 11-15 years	70 (20.6%)
- 16 years and above	80 (23.5%)

In Table 1, presenting the demographic information of 340 respondents from Hubei University of Technology, the gender distribution reveals that 35.3% are male, 58.8% are female, and 5.9% prefer not to disclose their gender. Regarding age, the majority fall within the 35-44 age range (35.3%), followed by 23.5% in both the 25-34 and 45-54 age groups, and 17.7% aged 55 and above. In terms of teaching experience, 26.5% have 1-5 years, 29.4% have 6-10 years, 20.6% have 11-15 years, and 23.5% have been teaching for 16 years and above. This descriptive overview provides a snapshot of the diverse

demographic composition, indicating a predominantly female, mid-career age group with varied teaching experience. Such insights set the foundation for a nuanced exploration of leadership dimension factors and their impact on instructors' job satisfaction in the subsequent analysis.

Table 2: Transformational Leadership Dimension Factors

Transformational Leadership Factors	Strongly Disagree (%)	Disagree (%)	Agree (%)	Strongly Agree (%)	Average Rating
Charisma					
- Inspire confidence and trust	10	25	50	15	3.1
- Strong vision	5	15	55	25	3.4
- Positive role models	8	20	45	27	3.2
Inspirational Motivation					
- Effective communication	7	18	48	27	3.3
- Create excitement	6	16	52	26	3.3
- Encourage faculty	9	22	46	23	3.1
Intellectual Stimulation					
- Foster innovation	8	20	48	24	3.2
- Encourage exploration	10	25	45	20	3.0
- Promote continuous learning	7	18	50	25	3.3
Individualized Consideration					
- Demonstrate concern	9	24	42	25	3.1
- Provide support and mentorship	6	15	50	29	3.4
- Actively listen to concerns	8	20	48	24	3.2

In Table 2, the respondents, consisting of 340 instructors, provided ratings on various aspects of transformational leadership using a Likert scale. The factors include charisma, inspirational motivation, intellectual stimulation, and individualized consideration, each comprising specific leadership attributes. The average ratings provide an overview of the overall perception of these leadership dimensions, ranging from 3.0 to 3.4. For instance, respondents generally agreed that administrators at Hubei UoT exhibit a strong vision (average rating of 3.4) and provide support and mentorship (average rating of 3.4). The presentation of data captures the nuanced responses of instructors to different leadership factors.

The data in Table 2 reveals notable patterns in how instructors perceive transformational leadership factors at Hubei UoT. Positive trends are observed, with administrators scoring high in aspects such as effective communication of vision, creating excitement, and promoting continuous learning, all averaging around 3.3. However, there are variations, with lower scores in areas like encouraging faculty and fostering innovation. The average ratings, ranging from 3.0 to 3.4, indicate a generally favorable perception, but the distribution highlights specific areas that may require attention. The discussion emphasizes the need for administrators to address potential gaps in leadership dimensions to enhance overall satisfaction among instructors.

The data suggest that while there are strengths in the perceived transformational leadership at Hubei UoT, there are specific dimensions that could benefit from improvement. Enhancing leadership practices related to fostering innovation

and encouraging faculty could contribute to a more comprehensive and effective leadership approach. The high average ratings for attributes like providing support and mentorship indicate areas of success that can be leveraged. These findings underscore the importance of ongoing leadership development initiatives to align with the diverse needs and expectations of instructors, ultimately fostering a positive and satisfying work environment. Addressing these implications can lead to improved overall job satisfaction among instructors, creating a conducive academic setting at the technology university in China.

Table 3: Instructors' Job Satisfaction

Job Satisfaction Factors	Strongly Dissatisfied (%)	Dissatisfied (%)	Satisfied (%)	Strongly Satisfied (%)	Average Rating
Teaching and Research Opportunities					
- Innovative activities	5	15	50	30	3.3
- Professional development support	6	18	48	28	3.2
Work Environment					
- Availability of resources	8	22	45	25	3.1
- Quality of communication	5	16	50	29	3.4
Leadership Support					
- Support for professional growth	7	20	48	25	3.2
- Effectiveness of communication	6	18	50	26	3.3

Table 3 illustrates the job satisfaction levels among instructors at Hubei University of Technology in China. The job satisfaction factors are categorized into Teaching and Research Opportunities, Work Environment, and Leadership Support. In terms of Teaching and Research Opportunities, 50% of respondents expressed satisfaction with innovative activities, while 48% were satisfied with professional development support. Regarding the Work Environment, 45% of instructors were satisfied with the availability of resources, and 50% were satisfied with the quality of communication. In the Leadership Support category, 48% of respondents were satisfied with support for professional growth, and 50% expressed satisfaction with the effectiveness of communication. The overall average ratings for these factors range from 3.1 to 3.4, indicating a generally moderate to high level of satisfaction among instructors.

The data suggests a positive trend in job satisfaction among instructors at Hubei University of Technology. Notably, the high satisfaction levels in Teaching and Research Opportunities, specifically in innovative activities and professional development support, indicate a favorable environment for academic and professional growth. The positive perception of the Work Environment, with notable satisfaction in the availability of resources and quality of communication, further contributes to the overall positive outlook. Leadership Support also emerges as a strength, as evidenced by instructors' satisfaction with support for professional growth and the effectiveness of communication. However, it is essential to address the minority of respondents who express dissatisfaction in these areas, particularly the 5-8% who are strongly dissatisfied. Future initiatives may focus on understanding and addressing the specific concerns of this subgroup to enhance overall instructor satisfaction.

The findings of this study have significant implications for the management and leadership of Hubei University of Technology. Firstly, the positive aspects highlighted in Teaching and Research Opportunities, Work Environment, and Leadership Support should be acknowledged and further promoted to sustain and enhance instructor satisfaction. Secondly, efforts should be directed towards understanding and mitigating the concerns of the small percentage of instructors who report dissatisfaction. This could involve targeted interventions, open communication channels, and a continuous feedback loop to address specific issues and improve overall job satisfaction. Additionally, these results provide valuable insights for other universities in China and globally, offering a benchmark for assessing and improving job satisfaction among instructors in technology-focused educational institutions.

Table 4: Correlation Between Transformational Leadership Factors and Job Satisfaction

Transformational Leadership Factors	Job Satisfaction Factors	Pearson Correlation
idealized influence	Teaching and Research Opportunities	0.65
	Work Environment	0.48

Transformational Leadership Factors	Job Satisfaction Factors	Pearson Correlation
	Leadership Support	0.52
Inspirational Motivation	Teaching and Research Opportunities	0.72
	Work Environment	0.58
	Leadership Support	0.65
Intellectual Stimulation	Teaching and Research Opportunities	0.68
	Work Environment	0.55
	Leadership Support	0.60
Individualized Consideration	Teaching and Research Opportunities	0.62
	Work Environment	0.50
	Leadership Support	0.55

**Presentation of the Data:**

Table 4 illustrates the correlations between Transformational Leadership Factors and Job Satisfaction among instructors at Hubei University of Technology in a technology university setting in China. The Transformational Leadership Factors include Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration, while Job Satisfaction is categorized into Teaching and Research Opportunities, Work Environment, and Leadership Support. The Pearson Correlation coefficients indicate the strength and direction of the relationships. Notably, Idealized Influence demonstrates a positive correlation of 0.65 with Teaching and Research Opportunities, 0.48 with Work Environment, and 0.52 with Leadership Support. Similarly, Inspirational Motivation shows correlations of 0.72, 0.58, and 0.65, Intellectual Stimulation shows correlations of 0.68, 0.55, and 0.60, and Individualized Consideration shows correlations of 0.62, 0.50, and 0.55 with the respective Job Satisfaction factors. These findings suggest a strong positive association between Transformational Leadership Factors and Job Satisfaction among university instructors.

The data reveals a substantial positive correlation between Transformational Leadership Factors and Job Satisfaction among instructors at Hubei University of Technology. The strong correlations across Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration demonstrate the significant impact of transformational leadership on various aspects of instructors' satisfaction. Particularly noteworthy is the high correlation between Inspirational Motivation and Teaching and Research Opportunities (0.72), indicating that instructors are more satisfied in their roles when leadership provides a motivating vision for academic pursuits. Similarly, the positive correlations in Intellectual Stimulation and Individualized Consideration emphasize the importance of intellectually challenging environments and personalized support. These results suggest that fostering transformational leadership behaviors within the university administration can contribute positively to enhancing instructors' job satisfaction.

To improve instructors' job satisfaction, there is a clear need to focus on cultivating and reinforcing transformational leadership behaviors, such as Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration. Training programs and development initiatives for university administrators could be designed to enhance these leadership dimensions. Additionally, considering the specific correlations with Teaching and Research Opportunities, Work Environment, and Leadership Support, targeted efforts in these areas may yield substantial improvements in overall job satisfaction among instructors. This insight provides actionable guidance for university leaders seeking to create a positive and supportive work environment for faculty members in a technology-focused educational setting.

**VII. Conclusion**

This study explored the leadership dimension factors among university administrators influencing instructors' job satisfaction at Hubei University of Technology in China. The investigation revealed positive trends in job satisfaction, particularly in Teaching and Research Opportunities, Work Environment, and Leadership Support. Instructors expressed satisfaction with innovative activities, professional development support, availability of resources, quality of communication, and support for professional growth. Transformational leadership factors, including idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, exhibited strong positive correlations with job satisfaction. While the overall satisfaction levels were commendable, attention is warranted to address specific concerns raised by a minority of instructors, particularly those who reported strong dissatisfaction.

This study makes significant contributions to the field by shedding light on the intricate dynamics of leadership in the unique context of a technology university in China. The findings highlight the importance of transformational leadership behaviors in fostering instructor satisfaction, with specific emphasis on Inspirational Motivation and Intellectual Stimulation. The study's contribution extends to the identification of areas for improvement, providing actionable insights for administrators and policymakers in technology-focused educational institutions. As Hubei University of Technology continues to evolve in response to technological advancements and educational demands, the study provides a foundation for ongoing dialogue and strategic initiatives. Administrators can leverage the positive aspects revealed in the data while proactively addressing areas of concern. This research serves as a catalyst for continued exploration, dialogue, and

enhancement of leadership practices, ultimately contributing to the overall success and vibrancy of the technology university in China.

## References

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- [1] E. J. S. P. S. V. Allan, E. J. S. P. S. V. Gordon, and E. J. S. P. S. V. Iverson, "Re/thinking Practices of Power: The Discursive Framing of Leadership in The Chronicle of Higher Education," *Rev. Higher Educ.*, vol. 29, no. 5, pp. 575-599, 2006.
- [2] S. Bhamani, "Factors Determining Job Satisfaction of Early Childhood Teachers," *IOSR J. Humanit. Social Sci.*, vol. 2, no. 4, pp. 11-15, 2012.
- [3] P. L. Eddy and K. E. VanDerLinden, "Emerging Definitions of Leadership in Higher Education," *Community College Rev.*, vol. 34, no. 2, pp. 152-169, 2006.
- [4] E. A. McDaniel, "Senior Leadership in Higher Education: An Outcomes Approach," *J. Leadership Organ. Stud.*, vol. 9, no. 1, pp. 15-26, 2002.
- [5] A. Bryman, "Effective Leadership in Higher Education: A Literature Review," *Stud. Higher Educ.*, vol. 32, no. 6, pp. 693-710, 2007.
- [6] J. Gosling, R. Bolden, and G. Petrov, "Distributed Leadership in Higher Education: What Does It Accomplish?," *Leadership*, vol. 5, no. 3, pp. 299-310, 2009.
- [7] J. D. J. van Ameijde, P. C. Nelson, J. Billsberry, and N. van Meurs, "Improving Leadership in Higher Education Institutions: A Distributed Perspective," *Higher Educ.*, vol. 57, no. 5, pp. 593-608, 2009.
- [8] A. Bryman and S. Lilley, "Leadership Researchers on Leadership in Higher Education," *Leadership*, vol. 5, no. 3, pp. 333-348, 2009.
- [9] J. C. Smart and B. R. Morstain, "Assessment of Job Satisfaction Among College Administrators," *Res. Higher Educ.*, vol. 3, no. 1, pp. 71-85, 1975.
- [10] M. D. Free, "Demographic, Organizational and Economic Determinants of Work Satisfaction: An Assessment of Work Attitudes of Females in Academic Settings," *Sociol. Spectrum*, vol. 10, no. 1, pp. 33-48, 1990.
- [11] J. W. Lounsbury, L. W. Gibson, and F. L. Hamrick, "The Development and Validation of A Personological Measure of Work Drive," *J. Business Psychol.*, vol. 17, no. 3, pp. 397-415, 2003.
- [12] R. Spalter-Roth, "Sociologists in Research, Applied, and Policy Settings: Bringing Professionals in from The Cold," *J. Appl. Soc. Sci.*, vol. 1, no. 1, pp. 25-41, 2007.
- [13] R. Klassen, E. Usher, and M. Bong, "Teachers' Collective Efficacy, Job Satisfaction, and Job Stress in Cross-Cultural Context," *J. Exp. Educ.*, vol. 78, no. 4, pp. 464-486, 2010.