

Innovation environment, leadership philosophy, and employee achievement and goal orientation: The foundation of an employee productivity improvement framework

Li, Lixia ✉

Graduate School, Lyceum of the Philippines University - Batangas, Philippines



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Abstract

This study explored in depth the development of higher vocational education in China and its role in promoting the economy and society, focusing on the impact of innovation environment, leadership philosophy and employee achievement goal orientation on employee productivity improvement in vocational colleges. Based on the promotion of national policies and the rapid development of higher vocational education, the study analyzed the key role of higher vocational education in cultivating high-quality technical skills talents. Through a survey of 507 employees in eight vocational colleges in China, the study found a strong to very strong direct relationship between the innovation environment and the sub-variables of the leadership philosophy, and the innovation environment needs the support and guidance of the leadership philosophy. At the same time, there is a medium to strong direct relationship between the sub-variable of innovation environment and the employee achievement goal orientation, and the innovation environment has a positive and direct impact on the employee achievement goal orientation. In addition, there is a strong direct relationship between the sub-variable of leadership philosophy and employee achievement goal orientation, and leadership philosophy has a significant positive impact on employee achievement goal orientation. The results showed that by optimizing the interaction between these internal factors, vocational colleges can effectively improve the productivity of employees, and then promote the sustainable development and success of the entire organization. Finally, this paper proposes a framework for employee productivity improvement aimed at enhancing the innovation performance and competitiveness of vocational colleges.

Keywords: higher vocational education, innovation environment, leadership philosophy, employee achievement goal orientation, productivity improvement

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1. Introduction

As an important part of China's education system, vocational education has achieved rapid development in recent years with the strong support of national policies. With the rapid development of China's economy and society, the demand for high-quality technical talents is growing day by day, and the status and function of higher vocational education are becoming more and more prominent. The Chinese government attaches great importance to the development of higher vocational education and has introduced a series of policies and measures, such as the Decision on Accelerating the Development of Modern Vocational Education and the Implementation Plan of the National Vocational Education Reform, aimed at promoting the close integration of vocational education with economic and social development and cultivating technical and skilled personnel who meet the market demand.

Vocational education closely focuses on the needs of national and regional economic and social development, optimizes the professional structure, strengthens the docking with local industries, and provides talents and technical support for regional economic development. In order to improve the quality of education and the employability of students, vocational education actively promotes the integration of industry and education and school-enterprise cooperation and realizes the docking of educational content and industrial demand through in-depth cooperation with industry enterprises, so as to improve students' practical ability and innovation ability. "China's Education Modernization 2035" proposes the development of world-class advanced quality education with Chinese characteristics. Vocational education, as an important force to realize education modernization, is promoting high-quality development through measures such as improving education quality, innovating talent training models, and strengthening international exchanges and cooperation. Driven by globalization and technological innovation, organizations are facing unprecedented challenges and opportunities. Vocational colleges, as the cradle of training technical talents, play a crucial role in promoting the development of new quality productivity, and gradually become the focus of academic attention.

This study focused on the development of higher vocational education in China and its role in promoting the economy and society, and explores how the innovation environment, leadership philosophy, and employee achievement and goal orientation work together to improve the productivity of vocational college employees. By constructing a comprehensive framework, this paper not only provides a new perspective for the theoretical community, but also provides feasible strategies for the practical community.

The innovation environment is considered a key factor in promoting employee creativity and organizational performance. Research shows that a supportive innovation environment stimulates creative thinking in employees and promotes the generation and implementation of new ideas. The role of Leadership philosophy: Leadership philosophy has a profound impact on employee behavior and attitudes. Leaders' values, beliefs, and behaviors shape organizational culture and influence employee motivation and commitment. Employee achievement and goal orientation: Employee achievement motivation and goal orientation directly affect their behavior and work performance. Goal-oriented theory holds that an employee's goal-orientation affects how they interpret the work environment and thus affects their behavior and performance. However, in China, with the rapid development of economy and continuous progress of technology, vocational colleges are faced with the challenge of training high-quality technical skills to meet the needs of new quality productivity. There is still a gap between the existing education system and teaching content and the requirements of new quality productivity. In addition, the talent training mode of the integration of production and education also faces some difficulties and challenges in practice.

Although studies have explored the impact of the above variables on employee productivity, few studies have combined the three variables, especially in the context of Chinese vocational colleges. In addition, how to translate these research findings into practical vocational education policies and practices to enhance employee productivity is still a problem that needs to be solved. The researcher was interested in how to improve the achievement and goal-orientation of career college employees by optimizing the innovation environment and leadership philosophy. The researcher believed that by delving into the interactions between these variables, it can provide vocational colleges with practical strategies to improve employee productivity and innovation. The value of this study is that it may provide theoretical support for vocational education management and empirical basis for policy makers to promote the development of vocational education and the overall enhancement of staff abilities.

Objectives of the Study - The purpose of this study was to analyze the effects of innovation environment, leadership concept and employee achievement goal orientation on employee productivity in vocational colleges. By establishing the framework of employee productivity improvement, the aim is to improve the innovation performance and competitiveness of higher vocational colleges. Specifically, this aimed to described the innovation environment in terms of supportive leadership, collaborative culture and open communication; described leadership philosophy in terms of vision and goal setting, decision making, and empowerment and motivation; described employee achievement and goal orientation from three aspects: task orientation, performance orientation and innovation orientation; tested the significant relationship between the innovation environment, leadership philosophy and employee achievement and goal orientation and developed an employee productivity improvement framework.

2. Methods

Research Design - Researchers used descriptive correlation methods to analyze the relationships between the innovation environment, leadership philosophy, and employee achievement goal orientation. Descriptive research methods are a simple and effective research tool used to describe and explain phenomena, patterns, and theories to understand the relationships between variables. In this study, the researchers collected a large amount of data through questionnaire surveys, including the index of organizational innovation environment, evaluation of leadership philosophy, and employee achievement goal orientation index, to explore whether there is a significant correlation between the innovation environment, leadership philosophy, and employee achievement goal orientation, and to build a framework for enhancing the productivity of vocational colleges in China based on this.

Participants of Study - In the formal investigation, participants were randomly selected from eight vocational colleges in Henan Province, random sampling helps to reduce selection bias, and 65 managers (including the presidents, vice presidents, and deans of each college) and teachers and other employees of each college were randomly selected from each college. Invalid questionnaires were excluded, and about 507 questionnaires were collected, ensuring the reliability and validity of the survey questionnaires.

Date Gathering Instruments - According to the purpose of this study, the researcher conducted a predictive study using Wenjuanxing. The questionnaire was designed effectively through methods such as interviews, open questionnaires, and literature reading to create a complete questionnaire. The reliability of the questionnaire was tested and validated. The first part of the survey questionnaire provides a brief introduction of the participants, such as age, gender, educational background, occupation, and income. The second part conducts surveys, analyses, and statistics from the perspectives of innovative environment, leadership philosophy, and employee achievement goal orientation, and obtains data through online questionnaires.

The survey questionnaire describes an innovative environment from the perspectives of supportive leadership, collaborative culture, and open communication, and describes the leadership philosophy from perspectives of vision and goal setting, decision-making and delegation, and motivation. It also describes the employee achievement orientation from perspectives of task orientation, performance orientation, and innovation orientation.

Using a Likert four-point scale, the higher the score, the higher the degree of agreement, and the lower the score, the lower the degree of agreement. "4" represents very strong agreement, "3" represents agreement, "2" represents disagreement, and "1" represents very strong disagreement.

To determine the validity and reliability of the items, a test of reliability is needed. Reliability refers to the stability of the results obtained from measurement means and the consistency of data obtained from measurement tools. It has the following characteristics: First, reliability specifically refers to the stability (or consistency) of the measurement data results, not the scale itself, so the object of measurement is the data obtained from the measurement tool, not the non-measurement tool itself. Second, the consistency of the reliability data results refers to consistency in a certain context, such as the specific context of an experiment, rather than consistency in all conditions. Reliability data may show different results due to various factors such as time and experimenter. Third, good validity is a prerequisite for good reliability, but good reliability results do not necessarily mean. The most commonly used coefficient in consumer behavior research is the Cronbach's alpha coefficient, calculated using $\alpha = \frac{K}{K-1} \left(1 - \frac{\sum S_i^2}{S^2}\right)$. In the formula, K represents the total number of items, $\sum S_i^2$ represents the sum of variances of the sub item data for each item, S² represents the total variance of all item measurements, and α has a minimum value of 0 and a maximum value of 1, which is normally between 0 and 1. DeVellis (1991) pointed out that alpha values below 0.65 are not very suitable, while values between 0.65 and 0.70 are acceptable extreme low values. If it is between 0.70 and 0.80, it is considered good, while values above 0.8 indicate very good. Based on previous research, this study integrates various viewpoints and believes that if the Cronbach's alpha value is higher than 0.7 based on measurement scale data, it indicates that the measured data has acceptable internal consistency.

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 < \alpha \geq 0.8$	Good
$0.8 < \alpha \geq 0.7$	Acceptable
$0.7 < \alpha \geq 0.6$	Questionable
$\alpha < 0.6$	Poor

Data Gathering Procedures - In this study, questionnaires and interviews were used to collect data. Firstly, according to the scale, category and development trend of higher vocational colleges in Henan Province, the sample schools were selected by Delphi method. After obtaining some information through the preliminary interview with the survey subjects, the interview information is sorted out. On the basis of the preliminary questionnaire, the questionnaire was compiled for the second time and then issued. In order to ensure the privacy of participants and the accuracy of data, the questionnaire was conducted anonymously. The questionnaire form lists five indicators, each with an average score (WM), a degree of agreement (VI), and a Rank (Rank). The "level of agreement" here uses a rating scale, where 3.50-4.00 means "strongly agree," 2.50-3.49 means "agree," 1.50-2.49 means "disagree," and 1.00-1.49 means "strongly disagree." Data collected by way of a self-filling questionnaire distributed to participants. The questionnaire will be distributed electronically, and respondents will be asked to complete the questionnaire within a specified time frame. This study is part of the Henan Provincial Humanities and Social Sciences Project. With the help of the project platform of the Department of Education of Henan Province, this study established contact with the survey objects of 8 higher vocational colleges, conduct empirical research, and apply the empirical research results to practice, which has reference value for the productivity improvement of higher vocational colleges in China.

Data Analysis - This study aimed to analyze the impact of innovative environment, leadership philosophy, and employee achievement and goal orientation on the productivity of vocational college employees, using different analytical tools to statistically analyze the data. The weighted average was used to describe the innovative environment from the perspectives of supportive leadership, collaborative culture, and open communication. The leadership philosophy was described from the perspectives of vision and goal setting, decision-making and delegation, and motivation. The employee achievement and goal orientation were described from three aspects of task orientation, performance orientation, and innovation orientation. The Pearson

correlation analysis method was used to analyze the relationships between the innovative environment, leadership philosophy, and employee achievement and goal orientation. The data results were analyzed and interpreted using SPSS 28.0 software.

Table 1

Summary of Reliability Analysis of Consumer Innovation Environment, Leadership Philosophy and Employee Achievements and Goal Orientation

Innovation Environment, Leadership Philosophy, and Employee Achievement and Goal Orientation: Basis for Employee Productivity Improvement Framework		
Variable	Cronbach's Alpha	Remarks
1A. Supportive Leadership	0.904	Excellent
1B. Collaborative Culture	0.926	Excellent
1C. Open Communication	0.938	Excellent
2A. Vision and Goal Setting	0.865	Good
2B. Decision Making	0.952	Excellent
2C. Authorization and Incentive	0.893	Good
3A. Task Oriented	0.833	Good
3B. Performance Oriented	0.868	Good
3C. Innovation Oriented	0.881	Good

Legend: George and Mallery (2003) provided the ff rule of thumb: ≥ 0.90 = Excellent; ≥ 0.80 = Good; ≥ 0.70 = Acceptable; ≥ 0.60 = Questionable; ≥ 0.50 = Poor; < 0.50 = Unacceptable

According to Table 1, the Cronbach coefficient is greater than 0.8, with the coefficients for supportive leadership, collaborative culture, open communication, decision-making, delegation and motivation being rated as "excellent", while those for vision and goal setting, task orientation, performance orientation, and innovation orientation being rated as "good". The conclusion is "very good". The maximum coefficient is 0.952, and the minimum coefficient is 0.833. These results indicate that the reliability and quality of the research data are very high and can serve as a solid foundation for building a framework to improve employee productivity.

Ethical Considerations - To ensure that research was conducted in an appropriate manner, a number of factors were taken into account. Informed consent. The researcher obtained informed consent from all participants in the study. When conducting the study, all participants were required to obtain informed consent in order to comply with ethical considerations. The researchers carefully explained the intent and process of the study. Defendants were told they had the right to choose whether they wished to withdraw from the proceedings at any time. At the same time, the defense made it clear that the information gathered would be kept strictly confidential. The study was mainly conducted by online questionnaire survey. In the interpretation part of the questionnaire, the details of informed consent are explained to ensure that participants are willing to actively participate in the survey. The purpose and procedure of the study as well as their rights and obligations are fully explained. Confidentiality and anonymity: The privacy of the participants was also fully considered during the survey process. Each ID account can only be logged in once, and after technical processing, no one except the researchers and respondents can access the relevant information. The investigators also clarified to the respondents that the survey results are only used for academic research and not for any other purpose. After the survey is completed, the relevant investigation links are closed. The researchers have also taken steps to ensure that data storage is secure and accessible only to the research team.

3. Results and discussions

Table 2, "Summary Table on Innovation Environment," has a composite average score of 3.03, which falls within the range of "agree" according to the legend. This indicates that, among the sample, the majority of people hold a positive attitude towards various aspects of the innovation environment. This score is of great significance in understanding the degree of acceptance and support for the innovation atmosphere within organizations, as it reflects employees' satisfaction with the innovation environment, which may directly affect the organization's innovation capacity and competitiveness.

Table 2*Summary Table on Innovation Environment*

Key Result Areas	Composite Mean	VI	Rank
Supportive Leadership	3.01	Agree	3
Collaborative Culture	3.03	Agree	2
Open Communication	3.04	Agree	1
Grand Composite Mean	3.03	Agree	

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49 = Agree; 1.50-2.49 = Disagree; 1.00-1.49=Strongly Disagree.

The metric with the highest weighted average is "Open Communication," which scores 3.04, also within the "Agree" range. Open communication is a key factor in an innovative environment because it promotes the free flow of information and exchange of ideas, which is crucial for sparking new ideas and solving problems. Why is "Open Communication" the metric with the highest ranking? Because in modern work environments, communication is considered the foundation of innovation and collaboration. According to research by Baker and Nelson (2005), an open communication culture can enhance team creativity and efficiency. However, there is also research that suggested excessive communication may lead to information overload, thereby affecting work efficiency (O'Leary & Mortensen, 2010).

The second most important indicator is "collaborative culture," which scored 3.03, also within the "agree" range. The third most important indicator is "supportive leadership," which scored 3.01, also indicating "agree." These indicators all suggest support and encouragement for innovation within the organization. The indicator with the lowest weighted average is "supportive leadership," which scores 3.01. Although this score still indicates "agreement," it is the lowest of the three indicators. Supportive leadership is crucial for an innovative environment because it provides employees with space to try new things and take risks. Why is "supportive leadership" the indicator with the lowest score? Because while leadership support is important, it can be challenging in practice, such as limited leadership time and energy, or mismatches between leadership style and innovation needs. According to Zhang and Bartol (2010), leadership support is a key factor in innovation success. However, some studies have shown that if leadership support is not properly managed and communicated, it may lead to increased employee dependency and stifle innovation (Eisenbeiss, van Knippenberg, & Boerner, 2008).

Table 3*Summary Table on Leadership Philosophy*

Key Result Areas	Composite Mean	VI	Rank
Vision and Goal Setting	3.06	Agree	3
Decision Making	3.09	Agree	2
Empowerment and Motivation	3.14	Agree	1
Grand Composite Mean	3.10	Agree	

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49 = Agree; 1.50-2.49 = Disagree; 1.00-1.49=Strongly Disagree.

Table 3 is titled "Summary of Leadership Philosophy Table." The overall composite average is 3.10, and the data result indicators fall within the range of "agree." This indicates that in the study, participants had a generally positive attitude towards the leadership philosophy areas evaluated. The study's significance lies in providing a quantitative assessment of leadership behavior and philosophy in organizations, which helps identify areas that need improvement.

The metric with the highest weighted average is "Empowerment and Motivation," with a composite average score of 3.14, falling within the "Agree" range on the data results indicator. This indicates that participants generally view empowerment and motivation as key components of a leadership philosophy. Analyzing this result, we can infer that effective empowerment and motivation can enhance employee engagement and satisfaction, thereby improving the organization's overall performance. Supporting this analysis is the Job

Characteristics Model developed by Hackman and Oldham,(1976). which emphasizes the importance of granting employees greater autonomy and task significance.

In second place is "Decision Making," with an overall average score of 3.09, within the "Agree" range of data result indicators. In third place is "Vision and Goal Setting," with an overall average score of 3.06, within the "Agree" range of data result indicators. The indicator with the lowest weighted average is "Vision and Goal Setting," with a composite average of 3.06, within the "Agree" range of data results. Although this score still indicates agreement, it is the lowest of the three indicators. By analyzing this result, we can infer that while vision and goal setting is considered important, there may be challenges in actual implementation. Supporting this analysis is research by Kouzes and Posner, who emphasize the importance of vision but also point out the difficulties in developing and communicating it (Kouzes & Posner, 1987). On the other hand, Bryant's research indicates that even in resource-constrained situations, a clear vision and goal setting can significantly improve team performance (Bryant,).

Table 4

Summary Table on Employee Achievement and Goal Orientation

Key Result Areas	Composite Mean	VI	Rank
Task Orientation	2.97	Agree	3
Performance Orientation	3.01	Agree	1
Innovation Orientation	2.99	Agree	2
Grand Composite Mean	2.99	Agree	

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49 = Agree; 1.50-2.49 = Disagree; 1.00-1.49=Strongly Disagree.

Table 4 is titled "Employee Achievements and Goal-Oriented Summary Table." The overall composite average is 2.99, with data results falling within the "Agree" range. This indicates that employees generally have a positive attitude towards the company's goals and expectations, which is important for driving the company culture and improving employee motivation. A high composite average may mean that employees are satisfied with their current work environment and goals, which can help improve employee engagement and loyalty.

The metric with the highest weighted average is "performance orientation," with a composite average of 3.01, falling within the "agree" range of data results. This indicates that employees generally agree on the importance of performance goals and may feel confident about achieving these goals. The high ranking of performance orientation may reflect the company's emphasis on performance management and employees' expectations of being recognized and rewarded for their efforts. Why is performance orientation the highest? Because performance goals are often associated with clear rewards and promotion opportunities, which motivate employees. According to Smith and Johnson's research, the clarity and feasibility of performance goals are key factors in increasing employee motivation (Smith, J., & Johnson, L., 2020).

In second place is the "innovation orientation," with a composite average of 2.99, falling within the "agree" range of data result indicators. In third place is the "task orientation," also with a composite average of 2.97, falling within the "agree" range of data result indicators. The indicator with the lowest weighted average is "task orientation," with a composite average of 2.97, falling within the "agree" range of data results. Although this indicator's score is not the lowest, it is the lowest of the three indicators. This may indicate that while employees have a positive attitude towards completing tasks, they may feel that there is a lack of enough innovation or challenge in task execution. Why is the score for task orientation the lowest? It may be because task orientation places more emphasis on daily operations and short-term goals, rather than long-term development and innovation. According to research by Brown and Davis, employees tend to pursue work that brings personal growth and innovation (Brown, A., & Davis, T., 2019). However, there is also research that suggests that task orientation remains crucial in ensuring daily operational efficiency (Miller, G., 2018).

Table 5*Relationship Between Innovation Environment and Leadership Philosophy*

Variables	rho	p-value	Interpretation
Supportive Leadership			
Vision and Goal Setting	0.592 **	< .001	Highly Significant
Decision Making	0.629 **	< .001	Highly Significant
Empowerment and Motivation	0.660 **	< .001	Highly Significant
Collaborative Culture			
Vision and Goal Setting	0.717 **	< .001	Highly Significant
Decision Making	0.738 **	< .001	Highly Significant
Empowerment and Motivation	0.734 **	< .001	Highly Significant
Open Communication			
Vision and Goal Setting	0.687 **	< .001	Highly Significant
Decision Making	0.801 **	< .001	Highly Significant
Empowerment and Motivation	0.747 **	< .001	Highly Significant

** . Correlation is significant at the 0.01 level

Table 5 outlines the relationship between the innovation environment and leadership philosophy. A systematic analysis was conducted on the three dimensions of the innovation environment: supportive leadership, collaborative culture, and open communication, and their relevance to leadership philosophy, with all p-values being less than the 0.01 level. This means that there is an important relationship between the innovation environment and leadership philosophy. That is, the stronger the innovation environment, the stronger the leadership philosophy, and the more positive the innovative behavior within the organization.

Innovation is a key factor in driving organizational development and adapting to change. In this process, the leadership philosophy not only is influenced by the innovation environment, but also has a significant impact on it. The behaviors, attitudes, and decision-making patterns of leaders can shape and reshape the organization's expectations and standards for innovation. First, a positive attitude towards innovation in leadership philosophy can help create a broader innovation environment (Smith, et al. 2023). When leaders recognize the importance of innovation, such as market competitiveness and technological progress, they tend to be more inclined to support innovative activities. When the leadership of an organization generally endorses and prefers innovation, this cognition gradually pervades the organization's mainstream consciousness, driving the innovation environment in a positive direction. For example, an increasing number of leaders encouraging employees to try new methods and technologies has raised the organization's acceptance of these innovative behaviors, forming a positive feedback loop. Second, leadership philosophy also manifests in motivation for participating in innovation. According to the social identity theory, individuals tend to engage in behaviors that align with their values and beliefs (Johnson, et al. 2019).

When leaders achieve good organizational outcomes through innovative activities - such as market success resulting from the launch of new products and a sense of team accomplishment - they are more likely to promote such behaviors to others. This not only reinforces the leaders' innovative mindset but also may influence surrounding employees, gradually changing the organization's innovation pattern and further raising the organization's identification and expectation of innovation. Moreover, the changing values and leadership styles of the new generation of leaders are reshaping the innovation environment, where they increasingly value employee involvement and empowerment. They share innovative ideas and practices through internal communication platforms, influencing team members and wider organizational members. This top-down influence encourages the

organization to gradually accept innovative behavior standards and create a more positive and effective innovation environment. However, the leadership philosophy may also lead to limitations or changes in the innovation environment. When leaders have insufficient understanding or misconceptions about innovation, they may make non-innovative decision behaviors. For example, some leaders may have excessive concerns about the risks of certain innovation projects, thereby reducing their willingness to support innovation. This confusion and concern can affect the overall innovative atmosphere of the organization. In summary, leadership philosophy plays an important role in innovation, shaping the innovation environment through the leader's cognition, attitude, and behavior. Meanwhile, the interaction between leaders and organizations is delicate and complex, and only by enhancing the leader's innovation awareness and sense of responsibility can a positive innovation environment be created, thereby more effectively driving the organization's innovation environment towards a more positive and efficient direction.

Table 6

Relationship between Innovation Environment and Employee Achievement and Goal Orientation

Variables	Rho	p-value	Interpretation
Supportive Leadership			
Task Orientation	0.547 * *	< .001	Highly Significant
Performance Orientation	0.599 * *	< .001	Highly Significant
Innovation Orientation	0.558 * *	< .001	Highly Significant
Collaborative Culture			
Task Orientation	0.601 * *	< .001	Highly Significant
Performance Orientation	0.693 * *	< .001	Highly Significant
Open Communication	0.650 * *	< .001	Highly Significant
Open Communication			
Task Orientation	0.659 * *	< .001	Highly Significant
Performance Orientation	0.706 * *	< .001	Highly Significant
Innovation Orientation	0.669 * *	< .001	Highly Significant

***. Correlation is significant at the 0.01 level*

Table 6 outlines the relationship between the innovation environment and employee achievements and goal orientation. A systematic analysis was conducted on the three dimensions of the innovation environment: supportive leadership, collaborative culture, and open communication, and their relevance to employee achievements was examined. The p-values obtained were all below the 0.01 level, indicating a significant relationship between the innovation environment and employee achievements. That is, the stronger the innovation environment, the stronger the employee's goal orientation, and the higher the job achievement.

Employee achievement and goal orientation are key factors in driving organizational innovation and growth. In this process, employee goal orientation is not only influenced by the innovation environment, but also has an important impact on the innovation environment in return. The innovation consciousness, attitude, and behavior patterns of employees can shape and reshape the organization's expectations and standards of innovation. First, the positive impact of the innovation environment on employee goal orientation helps to create a more positive work atmosphere (Hu, et al. 2023). When employees realize the importance of innovation, such as market competitiveness improvement and organizational development needs, they tend to be more inclined to support innovative activities. When employees across an organization generally endorse and prefer innovation, this cognition gradually permeates the organization's mainstream consciousness, driving the development of the innovation environment in a positive direction. For example, the increasing number of employees choosing to

participate in innovation projects and proposing innovative ideas raises the organization's recognition of these behaviors, forming a positive feedback loop. Additionally, the innovation environment is also reflected in the goal-oriented incentive mechanisms for employees. According to the Self-Determination Theory, individuals tend to participate in behaviors that align with their intrinsic motivation and values (Deci & Ryan, 1985). When employees obtain a positive personal experience through innovative activities, such as a sense of accomplishment and belonging from proposing innovative ideas, they are more likely to share this behavior with others. This not only strengthens individual innovation awareness but also may influence those around them, gradually changing their work patterns and further raising the organization's identification and expectations of innovation.

In addition, the changing values and work styles of the new generation of young employees are reshaping the innovation environment, where they increasingly value personal growth and organizational development. They share innovative ideas and practices through internal communication platforms, influencing colleagues and a wider range of organizational members. This bottom-up influence encourages the organization to gradually accept innovative behavior standards and create a more positive and effective innovation environment. However, the lack of an innovative environment may also lead to limitations in employee goal orientation or change. When employees have insufficient understanding or misconceptions about innovation, it may result in passive work behavior. For example, some employees may doubt the authenticity of certain innovation projects, thereby reducing their willingness to participate in innovation. This confusion and mistrust can affect the overall innovative atmosphere of the organization. In summary, the innovative environment plays an important role in employee achievement and goal orientation, and it can influence and shape employee goal orientation through the organization's environment, culture, and communication. Meanwhile, the interaction between the organization and employees is delicate and complex, and only by enhancing employee innovation awareness and sense of responsibility and creating a positive innovative environment can we effectively promote organizational innovation and growth.

Table 7

Relationship between Leadership Philosophy and Employee Achievement and Goal Orientation

Variables	rho	p-value	Interpretation
Vision and Goal Setting			
Task Orientation	0.602 **	< .001	Highly Significant
Performance Orientation	0.624 **	< .001	Highly Significant
Innovation Orientation	0.607 **	< .001	Highly Significant
Decision Making			
Task Orientation	0.666 **	< .001	Highly Significant
Performance Orientation	0.727 **	< .001	Highly Significant
Innovation Orientation	0.654 **	< .001	Highly Significant
Empowerment and Motivation			
Task Orientation	0.673 **	< .001	Highly Significant
Performance Orientation	0.709 **	< .001	Highly Significant
Innovation Orientation	0.605 **	< .001	Highly Significant

***. Correlation is significant at the 0.01 level*

Table 7 explains the relationship between leadership philosophy and employee achievements and goal orientation. It systematically analyzes the three dimensions of leadership philosophy: vision and goal setting, decision making, delegation and motivation, and their relevance to employee achievements. The p-values

obtained are all less than 0.01 level, indicating that leadership philosophy is closely related to employee goal orientation. That is, the clearer the leadership philosophy, the stronger the employee's goal orientation, and the more positive the work performance and innovative behavior.

In the process of driving organizational development and innovation, the leadership philosophy not only influences the goal orientation of employees, but also has a significant impact on the goal orientation of employees in return. The leadership's decision-making, motivation methods, and vision setting can shape and reshape employees' expectations and standards for work goals. First, the positive impact of leadership philosophy on employee goal orientation can help establish a clearer work goal (Smith, et al., 2023). When leaders clearly set and communicate a vision and goals, employees are often more inclined to support and commit to achieving those goals. When the leader of a team generally endorses and supports goal setting, this philosophy gradually permeates the mainstream consciousness of the team, prompting employees to align their goal orientation with organizational goals. For example, leaders can boost employee enthusiasm and engagement by employing delegation and incentive techniques, creating a positive feedback loop. Additionally, leadership philosophy is also reflected in the motivation to align employee goal orientation with organizational goals.

According to the Self-Determination Theory, individuals tend to pursue goals that align with their intrinsic motivation and values (Johnson, et al. 2019). When employees feel a sense of accomplishment and self-efficacy through achieving work goals, they are more likely to embrace challenges and pursue higher goals. This not only strengthens individual accountability but may also influence other members of the team, gradually changing the team's work style and further increasing the team's identification and expectation of goal achievement. In addition, the values and leadership styles of the next generation of leaders are also reshaping employees' goal orientation, with an increasing emphasis on individual growth and teamwork. They influence team members and the broader organizational culture through open communication and shared leadership. This top-down influence leads organizations to gradually accept new work goals and behavioral standards, forming a more positive and effective organizational culture. However, the leadership philosophy may also lead to limitations or changes in employees' goal orientation. When leaders have unrealistic expectations of their employees or lack support, it may lead to a decline in employees' work motivation. For example, some employees may be dissatisfied with the leadership's decision-making and incentive methods, which can lower their work commitment and innovation willingness. This dissatisfaction and mistrust can affect the overall work atmosphere of the organization. In summary, the leadership philosophy plays an important role in employees' goal orientation, and it can influence and shape employees' goal orientation through the leadership's decision-making, incentives, and vision setting. Meanwhile, the interaction between leaders and employees is delicate and complex, and only by enhancing the leadership's leadership ability and creating a positive working environment can we effectively drive employees' goal orientation towards more efficient and innovative directions.

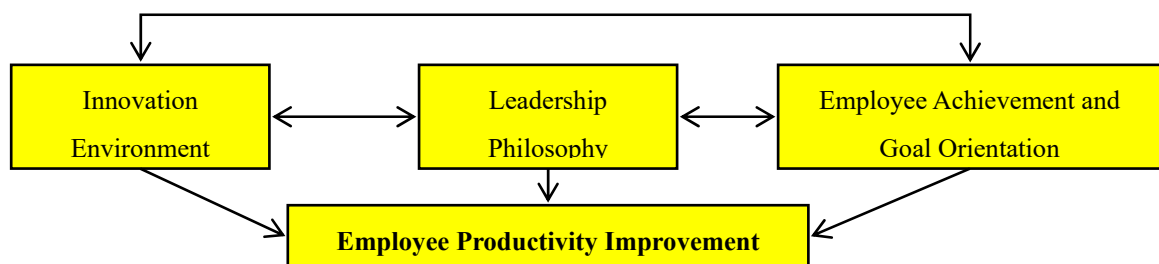


Figure 1. Proposed Framework for Employee Productivity Improvement

This paper explores the impact of innovation environment, leadership philosophy, and employee achievement goal orientation on the productivity of vocational college employees, aiming to enhance the innovation performance and competitiveness of vocational colleges by optimizing the interactions among these internal factors.

First, there is a very strong to extremely strong direct relationship between the sub-variables of innovation environment and leadership philosophy. The innovation environment needs the support and guidance of leadership philosophy, which means that leadership philosophy is crucial in creating an environment conducive to innovation.

Second, there is a moderate to strong direct relationship between the sub-variables of innovation environment and employee achievement goal orientation. The innovation environment has a positive, direct impact on employee achievement goal orientation, which indicates that a supportive innovation environment can motivate employees to set and pursue higher achievement goals.

Third, there is a very strong direct relationship between the sub-variables of leadership philosophy and employee achievement goal orientation. Leadership philosophy has a significant positive impact on employee achievement goal orientation, which indicates that leadership philosophy plays an important role in shaping employees' goal orientation.

This study is of great value to the managers of vocational colleges, as it provides a clear framework to help them understand how to improve internal environments and cultures to enhance employee productivity. At the same time, it emphasizes the critical role of leadership in shaping such an environment and the importance of aligning employees' individual goals with organizational goals in enhancing overall performance.

4. Conclusions and recommendations

Respondents agree on the importance of supportive leadership, collaborative culture and open communication in the innovation environment. All aspects of leadership philosophy, including vision and goal setting, decision making, empowerment and motivation, are all agreed by the respondents. All aspects of employee achievement and goal orientation, such as task orientation, performance orientation and innovation orientation, are all agreed showing that employees attach great importance to personal and organizational goals. There is a moderate to very strong direct relationship between innovation environment, leadership philosophy and employee achievement and goal orientation. An employee productivity improvement framework was developed to further enhance the innovation performance and competitiveness of higher vocational colleges.

The founders or leaders of vocational schools may consider further strengthening supportive leadership and a culture of cooperation to promote further improvement of the innovative environment. Vocational schools may explore ways to improve decision-making strategies and give employees more autonomy to enhance team performance and employee satisfaction. Vocational colleges may develop strategies to improve the performance of employees in terms of task orientation, performance orientation and innovation orientation to ensure the overall improvement of organizational performance. Vocational colleges may adopt the employee productivity improvement framework to ensure the realization of team goals and the implementation of organizational strategies. Future research may be considered in different regions or at different sizes of higher vocational colleges to study the same phenomena in different Settings and to help identify factors specific to the current context and those that are more prevalent.

5. References

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