The Influence of Ethical Leadership and Green Organizational Identity on Employees’ Green Innovation Behavior: The Moderating Effect of Strategic Flexibility

Liangcan Liu¹, Longying Zhao¹*

¹ School of Business, Guizhou University of Finance and Economics, Guiyang, Guizhou, 550025, China
¹* School of Business, Guizhou University of Finance and Economic, Guiyang, Guizhou, 550025, China
*Corresponding author’s e-mail: 1379801244@qq.com

Abstract. In the context of sustainable development and environmental protection, green innovation is an inevitable choice for enterprise development. Previous studies mainly discussed green innovation from the organizational level, but neglected the individual green innovation behavior. From the perspective of "leadership behavior", this paper explores the mechanism of ethical leadership on employees' green innovation behavior by using social learning theory and social identity theory. Thus a theoretical model is constructed, which includes four variables: ethical leadership, employee green innovation behavior, green organizational identity and strategic flexibility. It is proposed that ethical leadership not only positively affects employee green innovation behavior, but also transmits through the mediation role of green organizational identity. At the same time, strategic flexibility plays a moderating role between ethical leadership and green organizational identification. We hope to have a further understanding of the formation mechanism of employees' green innovation behavior.

1. Introduction
With the continuous prominence of haze, water pollution, global warming and other issues, public awareness of environmental protection is also constantly improving. Under the new normal situation of China's economy, innovation drive and green development have become two major concepts of national development, and green innovation is the combination of the two concepts. As a micro-component of the macro-ecosystem of society and environment, the sustainability of society and environment depends to a certain extent on the green sustainability of enterprises. Green innovation, as one of the important strategic tools for sustainable development of enterprises, can not only meet the requirements of environmental protection and fulfill the social responsibilities and obligations that enterprises should fulfill, but also realize innovations such as product design and packaging, enhance the competitive advantage of products, and help enterprises improve performance. Therefore, abandoning the traditional concept of development and turning to green innovation with "win-win" effect is the general trend of enterprise development. In addition, no matter in a specific region or industry practice green innovation, employees as an important unit of enterprise organization, their suggestions and ideas can effectively solve the problems of enterprises, but also most directly reflect the crux of the enterprise, so green innovation will eventually be implemented on employees.
Infiltrating into the work of individual members of an organization. Therefore, the study of employees' green innovation behavior has certain practical significance.

At present, scholars have done a lot of research on the impact of green innovation. The hot research areas focus on the impact of green innovation on competitive advantage, enterprise performance, economic development and so on. Specifically, based on the perspective of complementary assets, Xu Jianzhong founded that the relationship between green innovation and enterprise performance is U-shaped, rather than simply linear relationship[1]. Green innovation is considered as a strategic tool to enhance competitive advantage. The view that green innovation promotes economic development has been generally accepted by the academic community. In recent years, scholars have gradually turned their attention to the antecedents of green innovation, and have achieved rich research results. Research shows that R&D investment, executive cognition, environmental regulation, industrial agglomeration and other factors affect green innovation. In addition, some scholars also take environmental awareness of executives, enterprise resource abundance and other variables as intermediary or moderator variables to study the influencing factors of green innovation. Combing the relevant literature of green innovation, we can find that Scholars rarely study the influencing factors of green innovation from the individual level, mainly from the organizational level and social level. Leadership plays an important role in an enterprise. It is the most direct situational factor that employees are exposed to. Its leadership style also has an important impact on employees' attitude and behavior. However, the current studies related to this topic, especially on leadership factors, are few. The existing research is mainly based on the theory of planned behavior, starting from the variables of individual green innovation endogenous attitude, behavior norms, innovation willingness, and Some scholars also discuss the impact mechanism of alliance portfolio on green innovation behavior based on case studies. Ethical leaders show employees which behaviors are appropriate and ethical through their own behavior and interpersonal interaction, and encourage employees to adopt ethical behavior through two-way communication, incentives and other management methods. As an ethical individual, leader follows a series of ethical norms, When a leader is an ethical manager, he focuses on employees, leads them to do things correctly, guides them ethically, and focuses on sustainability[2]. Ethical leadership is an important issue in the management field in recent years. Especially in the context of Chinese culture, the ethical characteristics of leadership are highlighted. According to social learning theory, employees' green innovation behavior may be influenced by leadership behavior to a large extent. Therefore, from the "leadership behavior" to explore the relationship between ethical leadership and employees' green innovation behavior is the first issue to be studied in this paper.

The second issue is the internal mechanism between ethical leadership and employees' green innovation behavior. Therefore, when exploring the theoretical model of the relationship between ethical leadership and employee's green innovation behavior, the variable of green organizational identity is introduced to help explain the relationship between them better. Leadership behavior is one of the main factors that cause the change of employees' psychological state, and the change of employees' psychological state will affect the attitude and behavior of employees. Therefore, it is necessary to integrate the leadership behavior with the psychological state of employees. Organizational identity is a variable that reflects the degree to which employees perceive their internalization of organizational values and goals. This variable can not only predict employee behavior but also reveal the psychological relationship between employees and organizations. Although there has been a lot of discussion about organizational identity, there is still little research on green organizational identity, which combines organizational identity with natural environmental factors and applies to the field of environmental management. Therefore, this paper will explore the mediating role of green organizational identity between ethical leadership and employees' green innovation behavior.

In this paper, the third problem is that there are some boundary conditions between ethical leadership and employee's green innovation behavior, so we should pay attention to the situational characteristics between them. So we put forward the boundary conditions that affect the relationship between ethical leadership and employee's green innovation behavior: strategic flexibility.
introducing employees' perceived strategic flexibility to interpret employees' responses to leadership behaviors in this context, this paper explores "under what circumstances ethical leadership can better motivate employees to engage in green innovation". Therefore, this paper regards strategic flexibility as the boundary condition that influences the relationship between ethical leadership and employees' green innovation behavior.

Compared with previous studies, this paper mainly has the following differences. Firstly, the outcome variable discussed in this paper is not the green innovation performance, but the green innovation behavior of employees, re-examining green innovation from the individual level. Secondly, strategic flexibility is introduced into the research framework, and more attention is paid to employee perceived strategic flexibility. Based on the above analysis and discussion, this paper aims to explore how ethical leadership affects employees' green innovation behavior, whether green organizational identity plays a mediating role and whether strategic flexibility has a moderating effect between them.

2. Literature review and research hypothesis

2.1. Ethical leadership

In the current study, the most widely used definition of ethical leadership is proposed by Brown et al.[2]. They define ethical leadership in terms of behavior: leaders set an example to subordinates through personal and interpersonal communication, and stimulate subordinates' ethical behavior through two-way communication, incentives and decision-making. Brown et al argued that ethical leadership has two characteristics: one is an ethical individual who has the characteristics of honesty and integrity, abides by basic ethical norms and carries them out in daily life. Second is an ethical manager, including caring, caring for subordinates, setting moral examples to subordinates, communicating effectively with subordinates and guiding subordinates to conduct ethical behavior, adopting ethical decisions to influence the organization's behavior and moral values[2].

Domestic and foreign scholars have empirically examined the influencing factors and consequences of ethical leadership from the perspectives of social learning theory, personality traits and moral identity theory. For example, Kalshoven et al believed that the stability of personality traits could well predict ethical leadership, and the sense of responsibility, emotional stability, and agreeableness in the Big Five personalities had a positive effect on ethical leadership[3]. Giessner et al argued that the higher the moral identity of leaders, the stronger the positive impact on ethical leadership[4]. With regard to the impact of ethical leadership, the study found that ethical leadership can increase employee job satisfaction, enhance employee creativity and helpful behavior, Advisory behavior, promote corporate social responsibility and other positive behavior, inhibit employee anti-productive behavior, pro-organizational non-ethical behavior, Quit behavior and other negative behaviors.

2.2. Ethical leadership and employee's green innovation behavior

Green innovation is to reduce or avoid environmental pollution damage by designing green products, reforming processes and systems, and upgrading products or processes related to energy conservation, pollution prevention and control, waste recycling, etc. Green innovation is regarded by many managers or scholars as a powerful weapon to enhance competitive advantage, which can enhance corporate image and reputation. At present, scholars have studied the positive effects of green transformational leadership and environmental leadership on green creativity and green innovation[5][6]. Work environment is full of frequent interpersonal interaction. Leadership, as a bridge between enterprises and employees, has an impact on employees' behavior and attitude. If leadership is the force of gravity, subordinates are the force. Ethical leadership, as an important form of leadership in the Chinese context, will influence employees' green innovation behavior through its moral leadership and exemplary role:

Firstly, ethical leadership is not only an ethical individual, but also an ethical manager. Its own sense of responsibility, obligation and moral values are closely related to employees' behavior. The
more motivated such managers are, the more likely they are to use their personality charm to signal "what valuable behaviors can be accepted and encouraged by the enterprise". Ethical leadership pays attention to ethical management. A manager who has a moral management style, pays attention to sustainability and full of social responsibility will pay more attention to green R&D and green production, guide and encourage employees to research and produce innovative results with green benefits. Therefore, green innovation can not be separated from the implementation of ethical leadership. Secondly, social learning theory points out that employees learn and imitate by observing their supervisors'behavior patterns[7]. Leaders are important reference for employees and important sources for employees to get information. When employees perceive that ethical leadership cares about others, pays attention to sustainable development, possesses the values of green production and green R&D, and empowers employees to innovate, they may want to establish or develop positive social relationships with their leaders, which will be supported by Leaders'moral behavior, innovative spirit and encouragement. Employees conduct innovation and other behaviors as their own behavior models, so as to actively carry out green innovation behavior. Moreover, the study shows that ethical leadership will have a positive impact on employees and enterprises, and promote subordinates to show positive behavior, while green innovation behavior is a positive and active behavior of employees, not within the organizational rules and regulations, and has common ground with organizational public behavior, creativity and other positive behavior. Finally, compared with charismatic leadership and real leadership, ethical leadership will make more responsible ethical decisions, participate in responsible social activities and environmental protection, and through related management incentives to increase staff support for green innovation activities so that employees can participate in them. Compared with other leadership behaviors, ethical leadership is a green and sustainable implementer, which can perceive the different needs of employees for green innovation, promote green innovation through resource allocation and personalized service. Accordingly, the paper assumes that:

Hypothesis 1: ethical leadership has a significant positive impact on employees' green innovation behavior.

2.3. The mediating role of green organizational identity
Organizational identity reflects the degree of internalization of employees' perceptions of their values and goals. Research shows that organizational identity can effectively predict employees' attitudes and behaviors. In order to give the meaning of environmental protection behavior, the members of the organization jointly establish an organizational identity model about green innovation and environmental management, that is, green organizational identity[8]. Ethical leaders care about employees, help them solve problems, and pay attention to the sustainable development of enterprises, have a strong sense of ethics and corporate social responsibility. Enterprises with environmental ethics can establish a good external image. When employees perceive that leaders in their own organizations have these behaviors, they will feel the pride brought about by the work of such enterprises, which can shorten the psychological distance between organizations and employees, and improve the emotional attribution of employees to the organization. Therefore, when leaders and employees communicate and cooperate on environmental issues, ethical leadership will affect employees'values on environmental protection and the realization of environmental goals of enterprises, their understanding and enthusiasm for environmental protection, employees are also willing to respond to the organization's call through their own positive behavior and reach a common understanding with the organization on issues such as environmental protection. When ethical leaders respect employees, listen to their voices, convey green and innovative values, and demonstrate ethical and ethical examples, employees get hints from them, and they can better understand and identify with organizational goals, which means that green organizational identity is shaped by ethical leadership.

Leaders are important promoters of green behavior and innovation in enterprises. The level of leadership influences the possibility and enthusiasm of green innovation in enterprises. And green innovation will eventually be implemented in the work of employees, which needs to be realized by
employees. According to the theory of organizational identity, the higher the employee's identity with the organization, the more willingly and actively take positive actions to safeguard the interests of the organization. When faced with environmental pressures, leaders will reshape organizational identity and regard environmental protection as part of organizational identity. Employees with higher green organizational identity will be better able to dig out green innovation technologies, apply new knowledge and ideas creatively to green production processes, and innovate green products and green processes to achieve the "win-win" effect of environmental protection and innovation. Chang et al found that green organizational identity has a positive impact on environmental behavior[9]. It can be seen that green organizational identity can explain employee's green innovation behavior very well.

Leaders with lower levels of ethical leadership tend to be more interested in performance and less concerned with environmental factors in decision-making. They may be immoral leaders who lack green R&D, green production and other concepts, abandon ethical behavior in pursuit of business goals and even at the expense of polluting the environment. It is very difficult to gain the trust of employees, which makes the employees'green organizational identity decline, and then reduces the employees' positive feedback on the organization in green innovation, which has an impact on green innovation behavior. Therefore, in the path of ethical leadership influencing employees'green innovation behavior, leaders with higher ethical leadership level will enhance employees' green organizational identity, this will enable employees to apply the information and knowledge acquired to green innovation, respond positively to environmental issues, and produce organizational-friendly behaviors. Therefore, the following assumptions are made:

Hypothesis 2: green organizational identity plays an intermediary role between ethical leadership and employees' green innovation behavior.

2.4. The Moderating Effect of Strategic Flexibility

Strategic flexibility is the ability of an organization to respond to changes in the external environment, change its original strategy in time, and put resources into new programs to respond to changes[10]. Sanchez believes that strategic flexibility includes resource flexibility and coordination flexibility[10]. Resource flexibility reflects the specificity of resources, such as resource acquisition costs, effective scope of application, conversion costs, coordination flexibility reflects the coordination capability of enterprise resource allocation, such as identifying resource gaps, determining and constructing resource chains, etc. Strategic flexibility is the ability of enterprises to respond and adjust in uncertain environments. At present, most of the research researches mainly discuss the strategic flexibility from the organizational level. This paper is mainly based on employee perception of strategic flexibility, reflecting the employee's perception of the ability to quickly invest resources and effectively use resources in a changing environment.

When the environmental protection consciousness is transformed to green innovation activities, it needs the input of all kinds of resources of enterprises. Enterprises with higher resource flexibility mean lower resource specificity, wider application range and lower cost of resource conversion. The more flexible the coordination is, the more effective the representative enterprise will be in allocating and integrating internal and external resources to break the organizational inertia according to the environmental changes. The greater enterprise strategic flexibility in implementing green innovation is, the more adaptable it is to the changes of external environment, the stronger the ability to actively adjust resources and the ability to allocate resources among departments. According to this view, employees with high strategic level perception believe that enterprises have the ability to invest resources quickly and effectively in dynamic environment, which is more conducive to the development of enterprise activities. On the contrary, for employees with low perception of strategic flexibility, enterprises lack the ability to adapt to environmental changes and can not actively and effectively coordinate resources. Therefore, the perception level of strategic flexibility is different, and the attitude and behavior of employees will be correspondingly different. Specifically, employees with high perception of strategic flexibility tend to believe that leaders have the ability to identify potential benefits and opportunities for green innovation, and can apply the resources needed for green
innovation freely, thereby employees generate more trust and recognition for leaders. On the contrary, employees with low perception of strategic flexibility believe that leaders are incapable of investing and effectively utilizing the resources of green innovation in response to environmental changes, and are concerned about their own roles, disapprove and distrust their own leadership. Therefore, when ethical leadership conveys green innovation values to subordinates, expects employees to actively engage in green production and green R&D, employees will reduce their recognition and commitment to the strategic objectives of the organization. Under such circumstances, it is difficult for ethical leadership to strengthen employees' green organizational identity, and then to make employees produce "green" orientation of innovative behavior. Therefore, the following assumptions are made:

Hypothesis 3: strategic flexibility positively regulates the relationship between ethical leadership and employees' green organizational identity. The higher the level of strategic flexibility perceived by employees, the stronger the positive relationship between ethical leadership behavior and employees' green organizational identity, otherwise the opposite.

Based on social learning theory, this paper puts forward that ethical leadership affects employees' individual output, namely green innovation behavior, and reveals the deeper relationship between ethical leadership and employees' green innovation behavior by using organizational identity theory. However, the positive impact of ethical leadership on green organizational identity does not apply to every employee, that is, there are situational characteristics between the them. Under the background of economic transformation, enterprises are facing many uncertain factors, employees are facing a high uncertainty environment, and green innovation is uncertain and risky. Strategic flexibility represents the dynamic capability of enterprises under the uncertain environment. Therefore, this paper takes strategic flexibility into the framework as a boundary condition to analyze the attitude and behavior differences of employees with different perception levels of strategic flexibility. The purpose of this study is to explore the mediating mechanism of green organizational identity between ethical leadership and employee green innovation behavior, and to examine the regulatory mechanism of strategic flexibility between ethical leadership and employees' green organizational identity. Therefore, this paper puts forward an analytical framework of the mechanism of ethical leadership on employees' green innovation behavior, and constructs a theoretical model which includes four variables: ethical leadership, employees' green innovation behavior, green organizational identity and strategic flexibility. As shown in Figure 1.

Figure 1. Theory research framework

3. Conclusion
Based on social learning theory and organizational identity theory, this paper analyzes and discusses the internal mechanism of ethical leadership on employees' green innovation behavior. This paper argues that there is a significant positive relationship between ethical leadership and employees' green innovation behavior. Green organizational identity plays an intermediary role between them, and the relationship between ethical leadership and green organizational identity is moderated by strategic flexibility. However, the lack of empirical research in this paper can be verified, and future research can be further explored. Ethical leadership is the role model and the goal of employee imitation. It is an important predictor of employee behavior. Ethical leadership and employees can form a good reciprocal relationship that help employees to generate green organizational identity. Ethical leadership
plays a guiding role in employees' green innovation behavior, and it is also an important leadership mode for sustainable development of enterprises. The perceived level of employees' strategic flexibility testified to the contextualization of ethical leadership.

References

[1] Xu Jianzhong, Guan Jun and Lin Yan. (2016) A Research on the Relationship Between Environment Innovation and Corporate Performance in the Complementary Assets Perspective---The Moderating Effect of Strategic Flexibility and Organizational Slack. Science and Technology Progress and Countermeasures,33(20): 76-82.

[2] Brown M E, L K Trevino, D A Harrison. (2005) Ethical Leadership:A Social Learning Perspective for Construct Development and Testing. Organizational Behavior and Human Decision Processes,(97):117-134.

[3] Kalshoven, K., Den Hartog, D. N., & De Hoogh, A. H. B. (2011) Ethical leader behavior and big five factors of personality. Journal of Business Ethics, 100 (2), 349–366.

[4] Giessner, S.R., van Quaquebeke, N., van Gils, S., van Knippenberg, D., & Kollée, J. A. J.M. (2015) In the moral eye of the beholder: The interactive effects of leader and follower moral identity on perceptions of ethical leadership and LMX quality. Frontiers in Psychology, 6 ,1126.

[5] Chen, Y. S., & Chang, C. H. (2013) The determinants of green product development performance:Green dynamic capabilities, green transformational leadership, and green creativity. Journal of Business Ethics, 116 (1), 107-119.

[6] Robertson, J. L., & Barling, J. (2013) Greening organizations through leaders' influence on employees' pro-environmental behaviors. Journal of Organizational Behavior,34 (2), 176-194.

[7] Bandura,A. (1977) Social Learning Theory. M. Englewood CliVs,NJ: Prentice—Hall.

[8] Chen Y S. (2011) Green Organizational Identity:Sources Consequence. Management Decision,49(3):384-404.

[9] Chang C H, Chen Y S. (2013) Green Organizational Identity and Green Innovation. Management Decision,51(5):1056-1070.

[10] Sanchez,R. (1995) Strategic Flexibility in Product Competition. Strategic Management Journal,Vol.16,pp.135-159.