

Article

The Relationship between Female Leadership Traits and Employee Innovation Performance—The Mediating Role of Knowledge Sharing

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Abstract: The arrival of the new economic era, especially the rapid development of the Internet era, provides a broader platform for the development of women; women leaders can be seen in various fields. The improvement of female leadership status makes more scholars pay attention to the development and improvement of female leadership and leadership style, but few scholars study the influence of female leadership characteristics on employee innovation performance. This paper innovatively starts from female leadership, studies the relationship between female leadership characteristics and employee innovation performance, and takes knowledge sharing as an intermediary variable. This paper first uses flexible management theory, leadership style theory and caring ethics theory to construct the theoretical research model of this paper, and proposes four major hypotheses by sorting out the relationships among female leadership characteristics, knowledge sharing, and employee innovation performance. Secondly, a questionnaire suitable for this study was developed, and an empirical analysis was conducted by using SPSS, AMOS, and other software after 313 valid questionnaires were collected. The research conclusions of this paper are as follows: the characteristics of female leadership help employees to actively share knowledge within the organization; female leadership characteristics contribute to the improvement of employee innovation performance; and knowledge sharing plays a good mediating role in the improvement of employee innovation performance by female leadership traits. This paper enriches the research on leadership, especially female leadership, and provides a powerful supplement and explanation to the research on innovation. In addition, the research conclusions of this paper provide a new perspective on the leadership characteristics required by the enterprise for female leaders, and provide direction support for the sustainable development of female leaders in the enterprise.

Keywords: female leadership characteristics; knowledge sharing; employee innovation performance; flexible leadership; the mediation of utility



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1. Introduction

In 2020, General Secretary Xi Jinping proposed at the United Nations General Assembly commemorating the 25th anniversary of the Beijing World Conference on Women: “Women are the pioneers of human civilization and the promoters of social progress. Let gender equality be implemented, and women will be at the forefront of the times.” The Outline for the Development of Chinese Women (2021–2030) also states: “We must ensure that women are employed in multiple channels, ensure women’s equal employment rights, optimize the structure of women’s employment, and promote the development of women’s talents.” In recent years, with the rapid development of economy and society, more and more women participate in economic construction and social development. The arrival of the new economic era, especially the rapid development of the Internet era, has provided a broader platform for women’s development. More and more women are entering important leadership positions in politics, economics, education, and other fields, and their influence

on social life is rapidly expanding at an unprecedented pace. According to the “2022 Hurun Global Self-made Women Entrepreneurs List” released by the Hurun Research Institute, China has two-thirds of the world’s most successful female entrepreneurs, four times that of the second-ranked United States, and the top ten are among the top ten. Chinese women account for 80% of the billion-dollar female entrepreneurs.

With the increasing proportion of female leaders in enterprises, their unique charm and leadership style have attracted the attention of many scholars. Female leadership is also discussed as an important chapter in *Business Leadership Handbook, Leadership: Theory and Practice* and other monographs. Leadership qualities of women leaders in the management process has an important role to improve management effectiveness and promote staff development, many scholars (Shang Ke, 2018; Zhang suling, 2022; Liang xvkai, 2022) have researched for women leadership or leadership qualities for enterprise innovation performance from different angles but lack empirical analysis for employees’ innovation performance [1–3]. Therefore, this paper will prove female leadership characteristics promoting the improvement of employee innovation performance effectively by the method of empirical analysis. This result provides theoretical support for enterprises to choose more excellent female leaders when building management teams.

This study firstly summarizes and extracts the dimensions of female leadership traits, knowledge sharing, and employee innovation performance measurement. By analyzing the definitions of different variables and influencing factors, and combining with previous research, the measurement dimensions suitable for this study are proposed. After that, this study began to conduct an empirical analysis of the relationship between variables. Through the analysis and review of relevant theories and literature, this paper sorts out the relationship among women’s leadership traits, knowledge sharing, and employee innovation performance using flexible management theory, leadership style theory, and caring ethics theory to build a conceptual model about women’s leadership traits, knowledge sharing, and employee innovation performance.

Hua Qiangsen, McKinsey Global Senior Managing Partner and Director of the McKinsey Global Institute, said: “Many economies are currently facing problems such as aging, labor and skills shortages, and the low percentage of women in leadership positions is undoubtedly a waste of talent”. This study starts from the female leadership traits and combines leadership-related theories to study the promoting effect of female leadership traits on employee innovation performance. This research helps us to improve our objective evaluation and understanding of female leadership. Studying the influence of female leaders’ characteristics on employees’ innovation performance is not only in line with the current world development’s advocacy for gender equality, but also can provide a new path for corporate female leaders to learn and construct leadership characteristics, thus promoting the sustainable development of female leaders.

2. Review of Related Research

2.1. Female Leadership Characteristics

Female leadership characteristics refer to the common characteristics of female leaders including physical, psychological, behavior, and attitude. Guo Shubing and Rong Mei (2011) believe that female leadership traits refer to the significant internal conditions and special abilities that female leaders manifest in leadership activities that are different from male leaders in organizational contexts [1]. Shang Ke (2018) believes that female leadership traits refer to the physiological, psychological, behavioral, concept, attitude, and other characteristics shared by female leadership groups, and a series of traits derived from leadership activities [4]. This study believes that female leadership traits are the distinctive features shared by female managers, and are the unique advantages or potentials that female leaders can give full play to in their leadership activities.

Jiang Lai (2010) draws some characteristics of female leadership through the observation and summary of the growth process of many outstanding women. She believes that female leadership: (1) has good use of intuition; (2) is not afraid of risks, bold innova-

tion; and (3) has special hand and foot skills and efficient communication characteristics. The leadership style characteristics of female leadership are also more significant: female leaders can find opportunities in “caring for people”, focus on emotional expression, and put themselves in others’ shoes; they can find opportunities in crisis, and have a strong sense of responsibility and dedication. Encourage them to actively face difficulties and decisively resist risks [5]. Ma Wei (2018) proposed on the basis of research on young women’s leadership that young women’s leadership has the characteristics of (1) strong charisma, strong perception, and strong concentration [6]. Dai Xinting (2015) believes that the characteristics of female leadership are: (1) intuition—irrational thinking and judgment; (2) gregariousness—special social skills and enthusiasm; (3) humanization—non-authoritarian Leadership decision-making; and (4) extremes—a special case of bipolar leadership [7]. Wang Weihua (2010) believes that female leaders pay more attention to details, are good at team building, are resilient, have high credibility, are empathetic, and will adopt a humane working style [8]. Chen Hui (2017) believes that the leadership characteristics of female leaders are reflected in more humane management, faster adaptation and adaptability to environmental changes, and she also believes that female leaders are emotional, intuitive, and sympathetic. Heart and affinity [9].

Esther Wachs Book (2001) also mentioned the characteristics of female leadership in her paper: the self-confidence shown by women and the motivation to succeed at a very young age. They develop in their families the excellence and perseverance that they will show in life. They also possess competitive spirit, openness and skillful interpersonal skills [10]. Werhane (2007) believes that economic globalization has changed the nature and operation mode of enterprises. If enterprises want to seek long-term development, they must adapt to the changes brought about by economic globalization and carry out changes in management and leadership methods in a timely manner. The leadership characteristics of agility and flexibility are just suitable for the current enterprise transformation [11].

Based on the research of the above scholars, and, at the same time, fully considering the personality characteristics and advantages of women, this study draws on the research on transformational leadership styles, and considers the outstanding leadership advantages of female leaders. Regarding leadership charisma, this study believes that female leaders are more likely to use flexible leadership methods, so they choose the dimension of flexible leadership charisma, which includes moral literacy and leadership charisma. Regarding individualized caring ability, female leaders are more likely than men to have better caring ability, so the dimension of individualized caring ability is retained, and it is measured from the perspectives of career development and personal life care. Regarding vision motivation, this study believes that female leadership characteristics are more reflected in terms of communicating the vision and helping employees to deeply understand the meaning of the vision, the measurement dimension of motivation and inspiration is selected, and the focus is on the way of vision and effective communication in the ability of motivation and inspiration. Regarding the ability to stimulate intelligence, this dimension draws lessons from Shi Jiehui, Fan Libo, etc. In human research, a very important point in female leadership traits is patience, ability to guide employees, and strong empathy ability. Therefore, this study believes that the measurement of female leadership traits should also highlight this aspect, from encouraging employees, thinking about problems from different aspects, patiently listening to employees’ suggestions and so on.

Based on the above analysis, this study proposes the following four dimensions to measure women’s leadership traits: flexible leadership charm, individual caring ability, motivation and inspiration ability, and intelligent stimulation ability.

2.2. Knowledge Sharing

Gilbert Probst et al. divide knowledge management into the following core processes: knowledge identification, knowledge acquisition, knowledge development, knowledge sharing/distribution, knowledge utilization, and knowledge retention [12]. Knowledge sharing is the core of knowledge management. After the concept of knowledge manage-

ment was put forward in the 1980s, it triggered many scholars' research and discussion on the sub-fields in the process of knowledge management. The research on knowledge sharing has also become increasingly in-depth and diverse [13], and many scholars have defined knowledge sharing from different perspectives:

- (1) From the perspective of information communication: Paul Hendriks (1999) believes that knowledge sharing is a process of information communication, which is different from, but related to, information distribution (See Huber, 1991; Nelson and Coopriker, 1996) [14]. Hendriks believes that knowledge sharing is the transfer of knowledge from the knowledge owner to the knowledge demander, but this transfer requires the knowledge owner to have the willingness to communicate.
- (2) From the perspective of interactive learning: Senge (1997) believes that knowledge sharing is not only a one-way information transfer; it requires both parties of knowledge sharing to learn through interactive learning, so that the knowledge receiver can understand the connotation of the information and further study and research, and then transform it into the knowledge receiver's own information content forms its own action ability. Nancy (2004) believes that knowledge sharing is to share the knowledge that oneself knows with others, share this knowledge with others, and then make the whole organization obtain the knowledge [15]. Song Jianyuan (2004) believes that knowledge sharing refers to the ability of organizational members to exchange knowledge with each other, so that the knowledge experience at the individual level can be extended to the team and organizational level [16].
- (3) From the perspective of knowledge innovation: Van den Hooff & De Ridder (2004) defined knowledge sharing as the process in which organizational members exchange their knowledge (including tacit and explicit knowledge) with each other, thereby creating new knowledge [17].
- (4) From the perspective of systems thinking. Scholars such as Zhuge and Nabuco use systematic thinking to study knowledge sharing, arguing that knowledge sharing is not an individual activity but a whole activity, and this process works through a whole [18].

Based on this, this study believes that knowledge sharing is a process of communication between members of an organization. Different from one-way information transfer, knowledge sharing should be an interactive learning exchange between the two parties. One party shares knowledge and helps the other party digest and apply new information. A systematic process that continuously stimulates new ideas and new thinking. "It's not as good as a group of people to be happy alone", more exchanges and collision of ideas can make knowledge learning grow exponentially.

In terms of measuring knowledge sharing, scholars at home and abroad have developed corresponding scales according to their own research needs, including both single-dimensional scales and multi-dimensional scales. Through Wang Guobao's (2010) research on the dimensions and measurement of knowledge sharing in the Chinese context, it is found that the two-factor structural model has a higher degree of fit than the single-factor measurement in terms of measurement, so the reliability of multi-dimensional measurement of knowledge sharing is higher [19]. Furthermore, in this study, knowledge sharing should not only be used as an independent variable to examine its impact on employee innovation performance, but also as a dependent variable and an intermediary variable. Therefore, for the variable of knowledge sharing, not only the behavior of knowledge sharing but also the effect of knowledge sharing should be considered. After combing and studying related articles that use knowledge sharing as a mediating variable, this study measures knowledge sharing from three dimensions of knowledge sharing intention, behavior, and effect.

2.3. Employee Innovation Performance

Innovation can ensure that enterprises have endless vitality. In the fierce market competition, innovation can enable enterprises to have the core competitiveness of rapid

development. In the final analysis, the innovation ability of an enterprise depends on its employees. Only when the innovation ability of employees is gradually improved can the innovation level of the entire organization be continuously improved.

Mumford (2000) enriches the concept of innovation performance from the perspective of employees, he believes that employee innovation performance is a series of innovation activities carried out by R&D personnel to achieve innovation goals [20]. Han Yi et al. (2007) believe that innovation performance is the process of innovation behavior, in order to obtain competitive advantage, maintain core competitiveness, and obtain continuous growth momentum, and then continuously transfer the focus of knowledge in the process of continuous knowledge sharing and transfer [21]. Heng Yuanyuan (2012) believes that employee innovation performance refers to a series of innovation activities of employees and their output, which can be specifically perceived and can be measured and are valuable to the organization or team. These innovation activities need to go through various procedures or stages, which, in turn, produces performance [22].

This study adopts the definition of employee innovation performance by Han Yi et al., that is, in the process of continuous knowledge sharing and transfer, the employees of the enterprise constantly shift the focus of knowledge in order to obtain a competitive advantage and maintain core competitiveness. That is, employee innovation performance.

For research on employee innovation performance, scholars have also designed different scales to measure. The measurement of innovation performance Some scholars believe that it should be result-oriented and mainly measure innovation input and innovation output; some scholars believe that innovation performance should be measured through innovation behavior. The measurement scale developed by Scot and Bruce (1994) to measure the individual innovative behavior of employees includes three dimensions of innovative idea generation, promotion and realization [23].

The Innovation Behavior Scale developed by Onne Janssen and Van Yperen (2004) includes nine measurement items, and they divide innovation performance into three dimensions: ideas generation, ideas promotion, and ideas realization [24]; this scale has also been widely used by scholars to measure the innovation performance of employees. Hu, M.L.M., Horng, J.S., and Sun, Y.H.C. (2009) put forward five items for the measurement of employee innovation performance, mainly considering three dimensions of innovative idea proposal, innovative idea practice and innovative idea dissemination [25].

Domestic scholars Han Yi et al. draw on the research results of Janssen et al. to construct a measurement scale for measuring employee innovation performance, including innovation willingness, innovation action, and innovation result. At present, academic circles are studying the problem of employee innovation performance, and use this scale more often. This study also draws on the research results of Han Yi et al. to evaluate employee innovation performance from the above three dimensions.

3. Theoretical Analysis and Hypothesis Formulation

3.1. Female Leadership Characteristics and Knowledge Sharing

Currently, in academic research, we have not found literature that specifically studies the relationship between women's leadership traits and knowledge sharing. Through the analysis, it is found that knowledge sharing is associated with female leadership traits and transformational leadership styles. Therefore, by studying the mechanism of leadership behavior and transformational leadership style on knowledge sharing, this paper puts forward the hypothesis of the relationship between female leadership traits and knowledge sharing:

- (1) The impact of leadership behavior on knowledge sharing: Srivastava A believes that knowledge sharing in teams is not automatic, and leader behavior significantly will affect the extent of knowledge sharing in teams [26]. Organizations cannot force employees to share knowledge with others, but can only adopt flexible methods such as encouragement and guidance [27]. Helmastadt E believes that knowledge sharing and team atmosphere are closely related to team leadership behavior, and

leadership behavior will affect team innovation performance through influencing team atmosphere and knowledge sharing [28]. Yang Xia believes that leaders who care about subordinates, help others, and create a shared and group-oriented atmosphere in an organization will make employees more active in knowledge sharing. In other words, the higher the trust and openness between the leader and team members, the more team members will actively communicate and share knowledge to solve problems [29]. In the knowledge-sharing environment, a leader should not only have the demeanor of a leader but also the humility of a learner, instead of just issuing orders and implementing control. Effective leadership can boost team confidence and establish a relationship of mutual trust among team members, so as to motivate members to actively share knowledge [30].

- (2) The influence of transformational leadership on knowledge sharing: Transformational leaders are good at inspiring employees and possess charisma. Employees under such leadership tend to take the initiative to participate in various activities of the enterprise and are willing to learn and support each other. Li Guiquan used a structural equation model to verify that transformational leadership can effectively promote knowledge sharing among employees [31]. Jiang Daokui studied the behavior of transformational leadership in more detail, and he believed that task-oriented transformational leadership has a significant positive impact on knowledge sharing willingness, sharing behavior, and sharing performance [32]. Foreign scholars believe that the humanistic care and support of transformational leaders for team members can help overcome the uncertain concerns of team members caused by changes, and make employees willing to take the initiative to change or learn, so as to stimulate more knowledge sharing behaviors. In addition, transformational leaders can enhance team learning and knowledge sharing behaviors by empowering and encouraging their followers, giving them greater decision-making autonomy and supporting team members to use knowledge and experience to improve themselves [33]. M. Tariq believes that female leaders are more characteristic of transformational leadership and therefore have a positive impact on team knowledge sharing [34]. Sarin et al. also found that both transformational leadership style and democratic leadership style have positive effects on team learning and team knowledge application [35]. Based on the above analysis, the hypothesis of the relationship between female leadership characteristics and knowledge sharing is proposed:

H1: *The characteristics of female leadership have positive influence on knowledge sharing.*

H1a: *Flexible leadership charm has a positive effect on knowledge sharing.*

H1b: *Personality caring ability has a positive effect on knowledge sharing.*

H1c: *Motivating ability has a positive effect on knowledge sharing.*

H1d: *Intelligent stimulation ability has a positive effect on knowledge sharing.*

3.2. Knowledge Sharing and Employee Innovation Performance

Knowledge is an important resource for enterprises to maintain their core competitiveness, and the generation of innovative thinking and innovative behavior requires constant knowledge sharing and communication within enterprises. Knowledge sharing plays a key role in the improvement of enterprises' innovation ability, which helps to tap and release the huge potential of heterogeneous cognitive resources. In the process of knowledge sharing, employees' knowledge becomes more systematic, enriched and socialized, and their innovation ability is greatly improved [36]. Gao Jian believes that knowledge sharing, mainly through the integration of internal and external knowledge of enterprises, breaks the original pattern of knowledge dispersion and avoids the disadvantages brought by knowledge monopoly, so as to give full play to the "externality"

and “spillover effect” of knowledge and effectively improve the innovation ability and adaptability of enterprises [12].

Based on social classification theory, due to individual differences, there will be “debate” in the process of individual interaction, but its core involves the transfer, diffusion or integration of knowledge and information. This is intrinsically consistent with the meaning of knowledge sharing, and such “debate” can stimulate the discussion of different points of view, the study of different knowledge, and ultimately come up with more creative new ideas.

The study of Wang Yaxan et al. pointed out that tacit knowledge sharing can promote knowledge sharing among employees from the perspective of individual level [37]. According to the study of Wei Jiangru et al., knowledge sharing is a two-way and mutually beneficial process in which employees communicate and learn from each other, thus promoting the generation of employees’ innovative behaviors [38]. Wang Yanfei and Zhu Yu believe that knowledge sharing among employees can make full use of differentiated knowledge resources and capabilities, reduce the cost of knowledge acquisition and innovation [39]. The research of Low and Mohamed found that in addition to knowledge sharing, the influence on employee innovation performance also included the matching system and the organizational atmosphere encouraging knowledge sharing. In studying the relationship between employee diversity, knowledge sharing, and individual innovation performance, Liu Canhui and An Liren pointed out that frequent individual communication would promote the original static and isolated resources to be transformed into realistic “energy” and ultimately improve individual innovation performance [26]. Yang Hongtao and Yang Pingxiao, in their research on the impact of relationship network and knowledge sharing on enterprise innovation performance, believe that knowledge sharing is a process in which knowledge is transmitted, absorbed, and reapplied among members of an organization. Research results also show that the absorption and application of knowledge sharing can promote innovation performance [40]. Wan Qing believes that existing research results show that the final effect of knowledge sharing on employees’ innovation performance depends on their knowledge absorption and application ability [41].

On the one hand, members will review and improve their previous knowledge in the process of constantly sharing knowledge and absorbing fresh “nutrients”. On the other hand, they will constantly burst out new ideas, stimulate their own innovative thinking and promote the improvement of their own innovation performance.

In conclusion, knowledge sharing has a significant impact on employees’ innovation performance. Therefore, we propose the following hypotheses:

H2: *Knowledge sharing has a positive impact on employee innovation performance.*

3.3. Female Leadership Characteristics and Employee Innovation Performance

The current study on female leadership traits and employees’ innovation performance relationship is less, but, based on the analysis of the predecessors, female leadership traits are very close to transformational leadership styles, so we can transfer to the impact of female leadership traits on employees’ innovation performance by studying the relationship between transformational leadership style and innovation performance.

(1) Research on the impact of transformational leadership on innovation performance: Firstly, leadership has been identified as the most important factor affecting organizational innovation, especially transformational leadership can empower subordinates and create an appropriate atmosphere for innovation. Through empirical analysis, Yang Hua believes that transformational leadership has an important impact on employee innovation performance, and the improvement of employee innovation performance is achieved by stimulating employee creativity [42]. Liang Fu and Zhang Zhixin studied the relationship between the differentiation of the transformational and innovative performance, the results show that differential transformational leadership on employees’ innovation performance can have a positive role also has negative effects, leaders should adjust transformational leadership

style to make the employees' innovation performance keep [7] at a higher level in different environments. Bass and Avolio believe that transformational leaders can establish a good relationship with employees through intellectual inspiration, personalized care and other behaviors, and play a good role in guiding their thinking, learning, innovation and creation. Intellectual stimulation encourages employees to challenge the status quo, reorganize and analyze problems, and personalized care can encourage employees to express their views freely, further promote the improvement of innovative thinking, and enhance organizational creativity. Chen Chunhua et al. studied the relationship between transformational leadership and innovation performance in the context of China by using Meta analysis methods, and the results also confirmed that transformational leadership has a positive impact on individual employee innovation performance, team innovation performance, and organizational innovation performance [43].

(2) The impact of employee diversity on innovation performance: According to information decision theory, employee diversity can bring heterogeneous information and perspectives to an organization, break stereotypes, and avoid group myths, thus improving organizational performance. Innovation is closely related to employee diversity. "If you don't have diversity, if you don't have diversity in your leadership, then you're going to have more homogenous people who look the same, think the same, value the same," Anka, SAP's global vice president and CEO of diversity and inclusion programs, pointed out in an interview. "When similar people come together, they have similar ideas, they develop the same products, too much homogeneity is a threat to the development of enterprises, and creativity can only flourish when rooted in diversity."

Based on the above analysis, this study proposes the hypothesis of female leadership characteristics on employee innovation performance:

H3: *Female leadership characteristics have a positive impact on employee innovation performance.*

H3a: *Flexible leadership charm has positive influence on employee innovation performance.*

H3b: *Personality caring ability has a positive impact on employee innovation performance.*

H3c: *Motivating ability has positive influence on employee innovation performance.*

H3d: *Intelligent stimulation ability has a positive effect on employee innovation performance.*

3.4. Mediating Role of KNOWLEDGE Sharing

This study believes that female leadership traits have a positive impact on employee innovation performance. However, it needs to be further verified how female leadership traits ultimately affect employee innovation performance through influencing knowledge sharing. Slater and Narver believe that organizational knowledge sharing can be regarded as a mediating variable of leadership trait behavior on organizational performance [44]. Lu Chong confirmed that knowledge sharing plays a partially mediating role in the relationship between leadership style and mutation innovation [45]. Wang Feirong et al. believe that intellectual stimulation and motivational inspiration in transformational leadership have positive effects on innovation performance, and organizational learning plays a complete intermediary role. Shi Jiehui believes that female leadership characteristics encourage knowledge sharing, focus on strengthening communication among members, and adopt diversified management methods to improve the consistency of goals, thus improving team performance [46]. In addition to studying the relationship between transformational leadership and innovation performance, knowledge sharing also plays a mediating role in the relationship between leadership behavior, leadership thinking and innovation performance. For example, Wei Jiangru believes that knowledge sharing plays a mediating effect in the positive impact of the mean thinking of leaders on innovation performance [38].

This study assumes that female leadership characteristics have a positive impact on knowledge sharing. In the process of knowledge sharing, employees' knowledge becomes more systematic, rich, and socialized, and their innovation ability is greatly improved.

According to the theory of creativity composition, the level of creativity in an organization largely depends on the knowledge and skills that employees can acquire and use, and the degree of knowledge acquisition depends on the degree of knowledge sharing between employees and other members. Therefore, this study believes that knowledge sharing can serve as an intermediary variable to more closely link female leadership characteristics with employee innovation performance. Therefore, based on the above analysis, the following hypotheses are proposed in this study:

H4: *Female leadership traits have a positive impact on employee innovation performance through knowledge sharing.*

H4a: *Flexible leadership charm has a positive impact on employee innovation performance through knowledge sharing.*

H4b: *Personality caring ability has a positive impact on employee innovation performance through knowledge sharing.*

H4c: *Motivating ability has positive influence on employee innovation performance through knowledge sharing.*

H4d: *Intelligent stimulation ability has a positive impact on employee innovation performance through knowledge sharing.*

According to the preliminary research model and four hypotheses proposed, the research model of this paper is drawn, as shown in Figure 1.

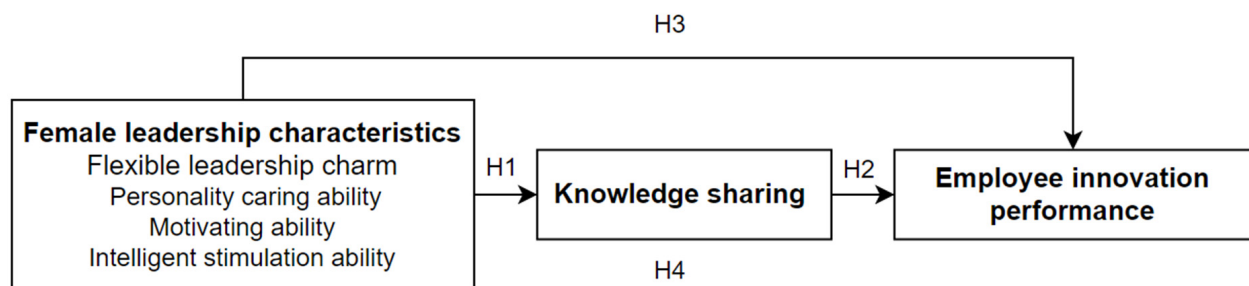


Figure 1. Structural Equation Model Diagram.

4. Data Collection and Statistical Analysis

4.1. Questionnaire Design and Distribution

This research chose a questionnaire to collect data; before the formal distribution of the questionnaire, a small-scale sample test was conducted. The reliability and validity of the questionnaire was analyzed, and the specific opinions of the subjects on the questionnaire design were interviewed, further perfecting the questionnaire, to ensure the rationality of the questionnaire and acceptability.

(1) Recipients: Since this paper studies the influence of female leadership characteristics on employee innovation performance, employees in enterprises and public institutions (directly subordinate leaders) are selected as the survey objects, and the relationship between research variables is determined through their ratings of their directly subordinate leaders. (2) Distribution method: The questionnaire in this paper is mainly distributed through the network. With the help of tutors, classmates, friends and MBA students, the questionnaire is distributed to people from all walks of life. The focus of the distribution is to find employees whose direct leadership is female to fill in the questionnaire. Therefore, a total of 350 questionnaires were issued and 313 valid questionnaires were valid after the questionnaires with male direct leadership were removed and those with female direct leadership were retained.

4.2. Small Sample Pre-Survey

After designing the questionnaire, 30 questionnaires were sent out in advance with the help of the tutor to test the reliability of the questionnaire. SPSS was used for reliability analysis and exploratory factor analysis of the 30 questionnaires. The α values of female leadership traits, knowledge sharing, and employee innovation performance were 0.887, 0.954, and 0.900, respectively, which were all greater than 0.7. The internal consistency of the questionnaire was good. Exploratory factor analysis was further conducted, and the KMO values of these three variables were 0.743, 0.843, and 0.834, respectively, which were suitable for factor analysis. After further factor analysis of female leadership traits, four principal components with eigenvalues greater than 1 can be obtained. Therefore, female leadership traits can be divided into four dimensions for verification. The questionnaire design has passed the small sample predictive test, which can be used for empirical analysis of large samples.

5. Empirical Analysis

5.1. Descriptive Statistical Analysis of Samples

The descriptive statistical analysis mainly analyzes the personal information and enterprise information of the respondents to check whether the collected data are evenly distributed. As shown in Table 1, the gender ratio of the interviewees was close to 1:1. Most of them were between 26 and 35 years old, accounting for 54.9%. The majority were educated to Bachelor's degree or master's degree level, accounting for 73.8%. This survey mainly focuses on enterprise employees, so grass-roots managers and ordinary employees account for up to 94%, which is also in line with the original intention of this survey, hoping to draw the final research conclusion through employees' rating of leaders and evaluation of innovation performance. Respondents mainly in the enterprise property are given priority, with private enterprises accounting for 42%, followed by foreign and state-owned enterprises, accounting for 17% and 14%, respectively, which also shows that there are more female leaders in private enterprises. To some extent, foreign enterprises pay more attention to individual ability; outstanding women also have relatively more opportunities to leadership.

Table 1. Descriptive Statistical Analysis.

| Personal Background | Describe Indicators | Effective Percentage |
|----------------------|--------------------------|----------------------|
| Gender | men | 46 |
| | women | 54 |
| Age | Age 25 and under | 19.2 |
| | 26 to 30 years old | 31.9 |
| | 31–35 years old | 23 |
| | 36–40 years old | 13.4 |
| | 41–45 years old | 12.5 |
| Education background | Junior college and below | 23.3 |
| | Undergraduate course | 47.6 |
| | A master's degree | 26.2 |
| | Doctor | 2.9 |
| Position | Ordinary employees | 83.7 |
| | Grassroots leader | 10.2 |
| | Middle leader | 4.2 |
| | Senior leaders | 1.9 |

Table 1. Cont.

| Personal Background | Describe Indicators | Effective Percentage |
|---------------------|--|----------------------|
| Affiliated function | Human Resources Department | 16 |
| | Technology R&D Department | 11 |
| | Finance dept. | 14 |
| | The purchasing department | 6 |
| | Marketing Department | 26 |
| | Justice | 3 |
| | Other | 24 |
| Enterprise property | Describe indicators | Effective percentage |
| Enterprise property | State-owned enterprises (soes) | 14 |
| | The joint venture | 12 |
| | The foreign capital enterprise | 17 |
| | Collective enterprise | 5 |
| | The private enterprise | 42 |
| | Other | 10 |
| Industry attributes | Manufacturing | 26 |
| | The financial sector | 10 |
| | The real estate industry | 7 |
| | Education | 14 |
| | Scientific research and technology services | 6 |
| | Culture, sports and entertainment | 9 |
| | Information transmission, software and information technology services | 8 |
| | Health and social work | 5 |
| Other | 15 | |

5.2. Reliability and Validity Analysis of Questionnaires

SPSS.26.0 and AMOS.24.0 (Norman H. Nie C. Hadlai (Tex) Hull and Dale H. Bent, Chicago, IL, USA) were used to test the reliability and validity of the questionnaire data, and the results are shown in Table 2. The factor load of each item is greater than 0.6, and the SMC value is greater than 0.5, indicating that the item validity of each dimension of the scale is good, and the constituent reliability CR value is greater than 0.7, which further verifies that the questionnaire has high internal consistency.

AVE value, correlation coefficient of each dimension and square root AVE data are shown in Table 3: AVE values in the table are all greater than 0.5, which proves that the scale has good convergence validity. The value of AVE squared (data on the diagonal) is greater than the value of the phase relation below and the value of the phase relation in the adjacent column, which proves that the questionnaire in this study has good discriminant validity.

Table 2. Scale Item Factor Load and Composition Reliability.

| Dimensionality | Topic | Parameter Significance Estimation | | | | Load Factors | The Questions the Reliability | Component Reliability |
|---------------------------------|-------|-----------------------------------|-------|--------|-----|--------------|-------------------------------|-----------------------|
| | | Estimate | S.E. | C.R. | p | Std | SMC | CR |
| Flexible leadership charm | RXLD4 | 1.000 | | | | 0.819 | 0.671 | 0.881 |
| | RXLD3 | 0.916 | 0.063 | 14.587 | *** | 0.757 | 0.573 | |
| | RXLD2 | 0.971 | 0.063 | 15.427 | *** | 0.790 | 0.624 | |
| | RXLD1 | 1.069 | 0.063 | 17.031 | *** | 0.854 | 0.729 | |
| Personality caring ability | GXGH4 | 1.000 | | | | 0.831 | 0.691 | 0.877 |
| | GXGH3 | 0.920 | 0.064 | 14.430 | *** | 0.751 | 0.564 | |
| | GXGH2 | 0.936 | 0.062 | 14.988 | *** | 0.773 | 0.598 | |
| | GXGH1 | 1.082 | 0.065 | 16.662 | *** | 0.844 | 0.712 | |
| Motivating ability | JLGW4 | 1.000 | | | | 0.837 | 0.701 | 0.873 |
| | JLGW3 | 0.889 | 0.059 | 15.035 | *** | 0.761 | 0.579 | |
| | JLGW2 | 0.824 | 0.059 | 14.069 | *** | 0.724 | 0.524 | |
| | JLGW1 | 1.025 | 0.059 | 17.521 | *** | 0.854 | 0.729 | |
| Intelligent stimulation ability | ZNJF4 | 1.000 | | | | 0.911 | 0.830 | 0.893 |
| | ZNJF3 | 0.805 | 0.051 | 15.897 | *** | 0.739 | 0.546 | |
| | ZNJF2 | 0.916 | 0.046 | 19.757 | *** | 0.843 | 0.711 | |
| | ZNJF1 | 0.850 | 0.048 | 17.588 | *** | 0.787 | 0.619 | |
| knowledge sharing | ZSGX5 | 1.000 | | | | 0.757 | 0.573 | 0.879 |
| | ZSGX4 | 1.109 | 0.074 | 14.987 | *** | 0.842 | 0.709 | |
| | ZSGX3 | 0.893 | 0.072 | 12.342 | *** | 0.703 | 0.494 | |
| | ZSGX2 | 1.020 | 0.076 | 13.464 | *** | 0.762 | 0.581 | |
| Employee innovation performance | ZSGX1 | 1.050 | 0.076 | 13.808 | *** | 0.779 | 0.607 | 0.867 |
| | CXJX5 | 1.000 | | | | 0.790 | 0.624 | |
| | CXJX4 | 0.960 | 0.071 | 13.472 | *** | 0.732 | 0.536 | |
| | CXJX3 | 0.928 | 0.067 | 13.799 | *** | 0.747 | 0.558 | |
| | CXJX2 | 1.096 | 0.075 | 14.538 | *** | 0.781 | 0.610 | |
| | CXJX1 | 0.984 | 0.076 | 12.983 | *** | 0.710 | 0.504 | |

1. Appendix A has been added to this article to explain the questionnaire items represented by each acronym in Topic of Table 2. 2. *** At 0.001 level (two-tailed), the correlation was significant.

Table 3. Scale Convergence Validity and Discriminant Validity.

| | AVE | Employee Innovation Performance | Knowledge Sharing | Intelligent Stimulation Ability | Motivating Ability | Personality Caring Ability | Flexible Leadership Charm |
|---------------------------------|-------|---------------------------------|-------------------|---------------------------------|--------------------|----------------------------|---------------------------|
| Employee innovation performance | 0.566 | 0.752 | | | | | |
| Knowledge sharing | 0.593 | 0.664 | 0.770 | | | | |
| Intelligent stimulation ability | 0.677 | 0.500 | 0.465 | 0.823 | | | |
| Motivating ability | 0.633 | 0.710 | 0.554 | 0.334 | 0.796 | | |
| Personality caring ability | 0.641 | 0.526 | 0.345 | 0.318 | 0.465 | 0.801 | |
| Flexible leadership charm | 0.649 | 0.662 | 0.592 | 0.362 | 0.644 | 0.357 | 0.806 |

5.3. Correlation Analysis

According to the theoretical analysis, each variable should have a certain correlation and the correlation coefficient is statistically significant, which is the basis for further establishing the structural equation model to verify the hypothesis in detail. SPSS was used to conduct correlation analysis on six variables in the research model, namely, flexible leadership charm, personality caring ability, motivating ability, intelligent motivating ability, knowledge sharing, and employee innovation performance. The analysis results are shown in Table 4:

Table 4. Correlation Analysis.

| | Flexible Leadership Charm | Personality Caring Ability | Motivating Ability | Intelligent Stimulation Ability | Knowledge Sharing | Employee Innovation Performance |
|---------------------------------|---------------------------|----------------------------|--------------------|---------------------------------|-------------------|---------------------------------|
| Flexible leadership charm | 1 | | | | | |
| Personality caring ability | 0.314 ** | 1 | | | | |
| Motivating ability | 0.574 ** | 0.397 ** | 1 | | | |
| Intelligent stimulation ability | 0.336 ** | 0.293 ** | 0.315 ** | 1 | | |
| Knowledge sharing | 0.522 ** | 0.294 ** | 0.485 ** | 0.432 ** | 1 | |
| Employee innovation performance | 0.580 ** | 0.455 ** | 0.616 ** | 0.463 ** | 0.574 ** | 1 |

** At 0.01 level (two-tailed), the correlation was significant.

The correlation coefficient between variables is significant at the level of 0.01, and the correlation coefficient is regular. The original hypothesis is basically verified, while the correlation coefficient is low, which proves that there is no multicollinearity problem. The structural equation can be further used to verify the path significance.

5.4. Hypothesis Testing and Structural Equation Model

5.4.1. Hypothesis Testing and Model Validation of Female Leadership Traits and Employee Innovation Performance

This study uses AMOS to construct a structural equation model diagram of each dimension of female leadership traits and employee innovation performance, as shown in Figure 2.

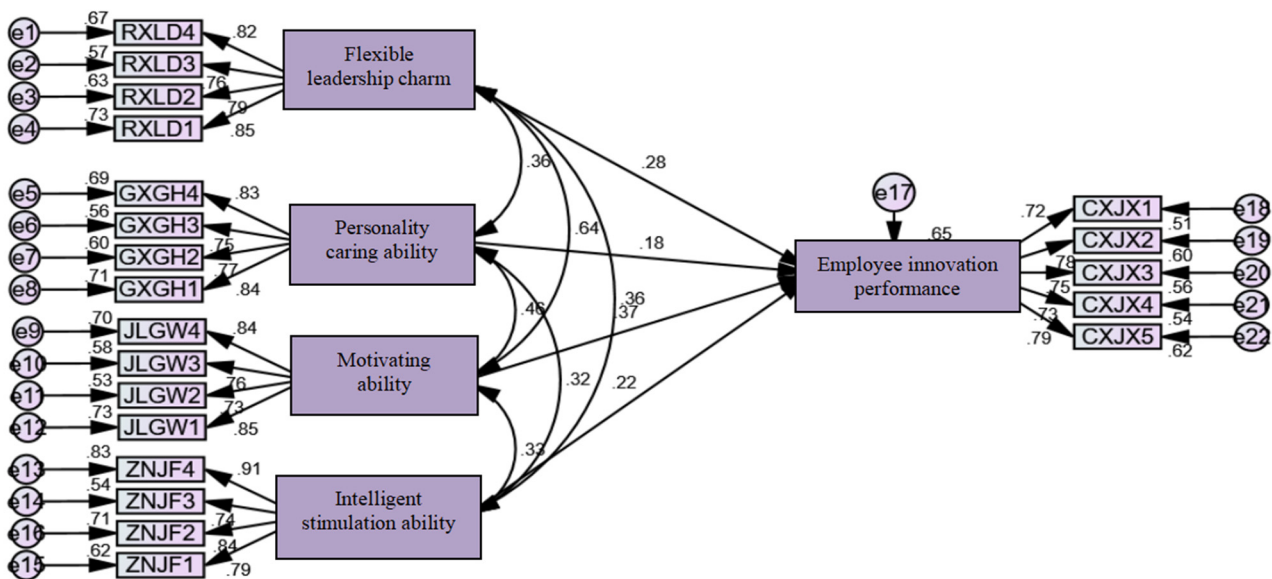


Figure 2. Structural equation model of female leadership traits and employee innovation performance.

After calculation, the fitting index of the structural equation model is obtained. Its CMIN/DF = 0.014 < 3, RMSEA = 0.007 < 0.08, GFI, AGFI, CFI are all greater than 0.9, so the goodness of fit of the model is good. As can be seen from Figure 2, under the condition that the model fits well, the standardized path coefficients of flexible leadership charisma, individual caring ability, motivation and inspiration ability, and intelligent stimulation ability to employee innovation performance are: 0.28, 0.18, 0.37, and 0.22.

This paper uses SPSS to analyze the structural equation model fitting indicators of women’s leadership traits and employee innovation performance, as shown in Table 5.

Table 5. The analysis of female leadership traits and employee innovation performance path.

| | Estimate | S.E. | C.R. | <i>p</i> | Accept the Hypothesis |
|---------------------------------|----------|-------|-------|----------|-----------------------|
| Flexible leadership charm | 0.211 | 0.05 | 4.211 | *** | Yes |
| Personality caring ability | 0.151 | 0.044 | 3.416 | *** | Yes |
| Motivating ability | 0.299 | 0.057 | 5.266 | *** | Yes |
| Intelligent stimulation ability | 0.226 | 0.053 | 4.275 | *** | Yes |

*** At 0.001 level (two-tailed), the correlation was significant.

As can be seen from Table 5, in the hypothesis verification of each dimension of female leadership traits and employee innovation performance, the *p* values are all 0.000, which is significant at the level of 0.001. Therefore, the positive relationship between the dimensions of female leadership traits and employee innovation performance has been verified.

5.4.2. Hypothesis Testing and Model Validation of Female Leadership Traits and Knowledge Sharing

This study uses AMOS to construct a structural equation model diagram of various dimensions of women’s leadership traits and knowledge sharing. As shown in Figure 3.

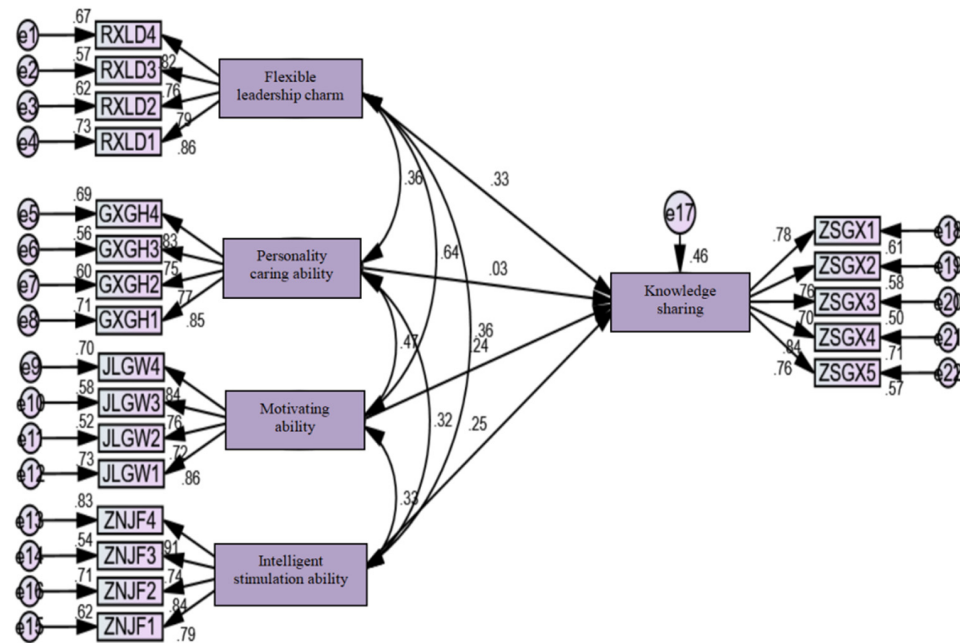


Figure 3. Structural equation model diagram of female leadership traits and knowledge sharing.

In this study, the fitting index of the structural equation model was obtained by AMOS analysis. Among them, $CMIN/DF = 1.134 < 3$, $RMSEA = 0.021 < 0.08$, GFI, AGFI, CFI, and other values are all greater than 0.9, so the goodness of fit of the model is good. Under the condition that the model fits well, it can be seen from Figure 3 that the standardized path coefficients of flexible leadership charisma, individual caring ability, motivation and inspiration ability, and intelligent stimulation ability for knowledge sharing are 0.33, 0.03, 0.24, and 0.25, respectively.

This paper uses SPSS to analyze the structural equation model fitting indicators of women’s leadership traits and knowledge sharing, as shown in Table 6.

It can be seen from Table 6 that the positive effects of flexible leadership charisma and intelligence stimulation ability on knowledge sharing are both significant at the level of 0.001, and the positive effect of motivation and inspiration ability on knowledge sharing is significant at the level of 0.01. The positive relationship for knowledge sharing is not significant, and the *p* value is 0.566. Therefore, except for the hypothesis that personality care has a positive effect on knowledge sharing, the other three paths have been verified.

Table 6. Path analysis of the female leadership traits and knowledge sharing.

| | Estimate | S.E. | C.R. | <i>p</i> | Accept the Hypothesis |
|---------------------------------|----------|-------|-------|----------|-----------------------|
| Flexible leadership charm | 0.270 | 0.060 | 4.472 | *** | Yes |
| Personality caring ability | 0.030 | 0.052 | 0.574 | 0.566 | No |
| Motivating ability | 0.202 | 0.066 | 3.078 | 0.002 | Yes |
| Intelligent stimulation ability | 0.280 | 0.064 | 4.387 | *** | Yes |

*** At 0.001 level (two-tailed), the correlation was significant.

5.4.3. Hypothesis Testing and Model Validation of Knowledge Sharing and Employee Innovation Performance

The model diagram of the relationship between knowledge sharing and employee innovation performance is shown in Figure 4.

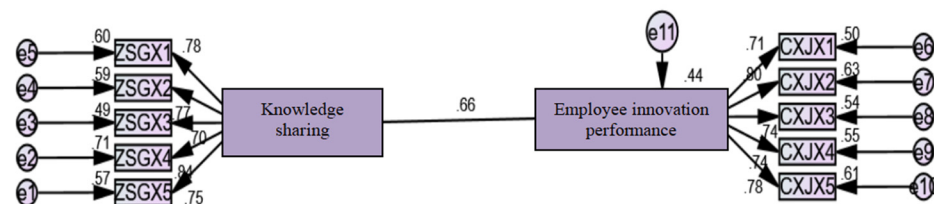


Figure 4. Model of the relationship between knowledge sharing and employee innovation performance.

In this study, the fitting index of the structural equation model obtained by AMOS analysis. Among them, CMIN/DF = 0.783 < 3, RMSEA = 0.000 < 0.08, GFI, AGFI, CFI, and other values are all greater than 0.9, so the goodness of fit of the model is good. As can be seen from Figure 4, under the condition of good model fitting, the standardized path coefficient of knowledge sharing for employee innovation performance is: 0.66.

The path analysis between knowledge sharing and employee innovation performance is shown in Table 7.

Table 7. Knowledge Sharing and Employee Innovation Performance Path Analysis.

| | Estimate | S.E. | C.R. | <i>p</i> | Accept the Hypothesis |
|-------------------|----------|-------|-------|----------|-----------------------|
| knowledge sharing | 0.65 | 0.071 | 9.136 | *** | Yes |

*** At 0.001 level (two-tailed), the correlation was significant.

As can be seen from Table 7, the *p* value is 0.000, which is significant at the level of 0.001, so the positive effect of knowledge sharing on employee innovation performance has been verified.

Through the above analysis and test, only the positive effect of personal caring ability on knowledge sharing is not significant. Therefore, after eliminating this path, the complete structural equation model of this study can be obtained, as shown in Figure 5.

It has been verified that the CMIN/DF of the structural equation model is 1.028 < 3, the RMSEA value is 0.009 < 0.08, and the absolute fitting indicators GFI and AGFI are both greater than 0.9. This proves the good fit of the model, which further validates the establishment of the theoretical model by using the empirical model. At this point all assumptions are verified.

5.5. Intermediary Utility Test

In this research, it is considered that knowledge sharing plays a mediating role in the positive impact of all dimensions of female leadership traits and employee innovation performance. The total effect verification results of the model are shown in Table 8. The Z estimates of the total effect of each path are all greater than 1.96, proving that the total effect exists. None of the paths in the parameter range after deviation correction includes 0, which proves that indirect effects may exist. The first step of mediation validation meets the requirements.

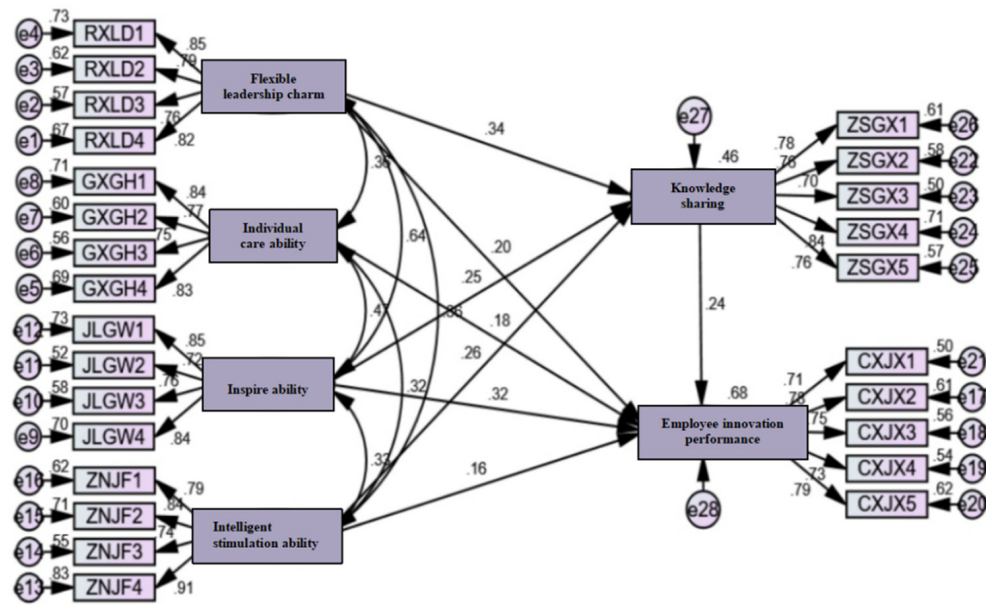


Figure 5. Structural equation model diagram of female leadership traits, knowledge sharing and Employee Innovation Performance.

Table 8. Total Effect.

| Relationships | Point Estimate | Products of Coefficients | | Bootstrapping | | | |
|---|----------------|--------------------------|-------|----------------|-------|------------|-------|
| | | SE | Z | Bias-Corrected | | Percentile | |
| | | | | Lower | Upper | Lower | Upper |
| Flexible leadership Charm → Employee innovation performance | 0.249 | 0.064 | 3.891 | 0.120 | 0.368 | 0.129 | 0.376 |
| Personality caring ability → Employee innovation performance | 0.181 | 0.053 | 3.415 | 0.074 | 0.286 | 0.077 | 0.288 |
| Motivating ability → Employee innovation performance | 0.337 | 0.068 | 4.956 | 0.206 | 0.481 | 0.201 | 0.474 |
| Intelligent stimulation ability → Employee innovation performance | 0.211 | 0.051 | 4.137 | 0.119 | 0.311 | 0.115 | 0.305 |

The second step is to verify indirect effects. As shown in Table 9, under 95% confidence interval, the interval values of Bias-corrected and Percentile of the charm of flexible leader charm, inspire ability, and intelligent stimulation ability do not include 0, and the Z values are all greater than 1.96, proving the existence of mediation effects of these three paths. However, the bias-corrected interval values of personality caring ability for employee innovation performance are (−0.017–0.043), and the percentile interval values are (−0.019–0.039), including 0, indicating that there is no mediating effect of personality caring ability on employee innovation performance. This is consistent with the non-significant positive relationship between personality caring ability and knowledge sharing in hypothesis testing.

The third step is to verify whether it is a partial mediation or a complete mediation, which is determined by the Z-value of the direct effect, as shown in Table 10. The Z values of the direct effects of flexible leader charm, inspire ability, and intelligent stimulation ability on employee innovation performance are all greater than 1.96, which proves that the direct effects exist and are significant. The Z values of direct effects are smaller than the total effects, which proves that the mediations of these three paths are all partial mediations.

Table 9. Indirect Effect.

| Relationships | Point Estimate | Products of Coefficients | | Bootstrapping | | | |
|---|----------------|--------------------------|-------|----------------|-------|------------|-------|
| | | | | Bias-Corrected | | Percentile | |
| | | SE | Z | Lower | Upper | Lower | Upper |
| Flexible leadership Charm → Employee innovation performance | 0.072 | 0.027 | 2.667 | 0.030 | 0.136 | 0.026 | 0.129 |
| Personality caring ability → employee innovation performance | 0.008 | 0.015 | 0.533 | −0.017 | 0.043 | −0.019 | 0.039 |
| Motivating ability → employee innovation performance | 0.051 | 0.023 | 2.217 | 0.017 | 0.113 | 0.014 | 0.104 |
| Intelligent stimulation ability → employee innovation performance | 0.059 | 0.025 | 2.36 | 0.023 | 0.125 | 0.018 | 0.115 |

Table 10. Direct Effect.

| Relationships | Point Estimate | Products of Coefficients | | Bootstrapping | | | |
|---|----------------|--------------------------|-------|----------------|-------|------------|-------|
| | | | | Bias-Corrected | | Percentile | |
| | | SE | Z | Lower | Upper | Lower | Upper |
| Flexible leadership Charm → employee innovation performance | 0.177 | 0.066 | 2.682 | 0.038 | .303 | 0.049 | 0.314 |
| Personality caring ability → employee innovation performance | 0.173 | 0.051 | 3.392 | −0.069 | 0.278 | 0.071 | 0.280 |
| Motivating ability → employee innovation performance | 0.286 | 0.068 | 4.206 | 0.156 | 0.425 | 0.150 | 0.418 |
| Intelligent stimulation ability → employee innovation performance | 0.152 | 0.050 | 3.040 | 0.056 | 0.253 | 0.052 | 0.249 |

Based on the above analysis, the verification results of all hypotheses are summarized as follows:

It can be seen from Table 11 that the flexible leadership charm, motivating and inspiring ability and intelligence-stimulating ability of women's leadership traits have a positive impact on knowledge sharing. However, the positive effect of individual caring ability on knowledge sharing is not significant. Through research, it is found that the personality care ability is more able to solve the confusion of employees and help them grow, which may be aimed at an individual, so it cannot influence the willingness or behavior of knowledge sharing among employees. In addition, through empirical evidence, it is found that both female leadership traits and knowledge sharing have a positive impact on employee innovation performance. Finally, we found that the flexible leadership charisma, motivating and inspiring ability, and intelligent stimulating ability of female leaders' female leadership traits have a positive impact on employee innovation performance through knowledge sharing. Knowledge sharing has a mediating effect on female leadership traits and employee innovation performance. However, individual caring ability will not have a positive impact on employee innovation performance through knowledge sharing.

Table 11. Hypothesis test result.

| | Hypothesis | Whether It Passes the Verification |
|---|---|------------------------------------|
| Female leadership traits and knowledge sharing | H1: The characteristics of female leadership have positive influence on knowledge sharing | Mostly verified |
| | H1a: Flexible leadership charm has a positive effect on knowledge sharing | Yes |
| | H1b: Personality caring ability has a positive effect on knowledge sharing | No |
| | H1c: Motivating ability has a positive effect on knowledge sharing | Yes |
| | H1d: Intelligent stimulation ability has a positive effect on knowledge sharing | Yes |
| Knowledge sharing and employee innovation performance | H2: Knowledge sharing has a positive impact on employee innovation performance | Yes |
| Female leadership characteristics and employee innovation performance | H3: Female leadership characteristics have a positive impact on employee innovation performance | Yes |
| | H3a: Flexible leadership charm has positive influence on employee innovation performance | Yes |
| | H3b: Personality caring ability has a positive impact on employee innovation performance | Yes |
| | H3c: Motivating ability has positive influence on employee innovation performance | Yes |
| | H3d: Intelligent stimulation ability has a positive effect on employee innovation performance | Yes |
| Female leadership traits, Knowledge sharing and employee innovation performance | H4: Female leadership traits have a positive impact on employee innovation performance through knowledge sharing | Yes (Some intermediaries) |
| | H4a: Flexible leadership charm has a positive impact on employee innovation performance through knowledge sharing | Yes (Some intermediaries) |
| | H4b: Personality caring ability has a positive impact on employee innovation performance through knowledge sharing | No |
| | H4c: Motivating ability has positive influence on employee innovation performance through knowledge sharing | Yes (Some intermediaries) |
| | H4d: Intelligent stimulation ability has a positive impact on employee innovation performance through knowledge sharing | Yes (Some intermediaries) |

6. Research Conclusions and Suggestions

6.1. Research Conclusions

This paper divides the characteristics of female leadership into four dimensions: flexible leadership charm, personality caring ability, inspire ability, and intelligent motivating ability, and verifies the positive impact of each dimension on knowledge sharing. Only personality care ability has no significant positive effect on knowledge sharing, while the other three dimensions have positive effect on knowledge sharing. However, as a whole, the characteristics of female leadership can still have a positive impact on knowledge sharing through four specific dimensions.

The positive relationship between the four dimensions of female leadership characteristics and employees' innovation performance has been verified. Therefore, for leaders, the charm of flexible management, the personality caring ability, the motivation of motivation, and the potential of intelligent stimulation are good characteristics for employees' growth and enterprise profits.

The positive impact of knowledge sharing on employee innovation performance has also been verified. Knowledge sharing among employees is a good way for knowledge to flow freely and for employees to learn and promote each other. It is also the basis for innovation performance improvement. Nowadays, enterprises have more comprehensive requirements for employees, and employees themselves also need to keep learning to improve their competitiveness. Knowledge sharing can not only improve the learning efficiency of employees, but also enable them to learn new knowledge from various aspects, resulting in the effect that one plus one is greater than two. The process of knowledge sharing enables employees to learn knowledge and enhance their sense of identity and confidence. Employees are also more willing to use their brains and contribute wisdom, which is conducive to the improvement of innovation performance.

In the empirical study of this paper, knowledge sharing partially mediates the relationship between various dimensions of female leadership traits and employee innovation performance. The results of this paper once again confirm the existence of the mediating utility of knowledge sharing, and establish the relationship between female leadership traits—knowledge sharing—and employee innovation performance. Flexible leadership charisma, inspire ability, and intelligent stimulation ability all have positive effects on employee innovation performance. Moreover, the positive effects of knowledge sharing still exist, which proves that knowledge sharing is a partial mediation. Therefore, the mediating role of knowledge sharing in this study has been verified, and the theoretical model of female leadership trait—knowledge sharing—and employee innovation performance can also be established.

However, in the research of this paper, the impact of personality caring ability on employee innovation performance has only a direct effect, and the impact of personality caring ability on knowledge sharing has not passed the test. Therefore, the mediating effect of knowledge sharing between individual caring ability and employee innovation performance does not exist. This is also true in the paper by Fan Libo et al. The individual caring ability is more prominent in the respect for the individual employee and the emphasis on personal development. In a team, caring for individual employees may not create a harmonious and friendly atmosphere, nor will it affect the interactive behavior of knowledge sharing. However, the positive effects of other dimensions of female leadership traits on employee innovation performance under the influence of knowledge sharing have been verified, and it can also be considered that female leadership traits can have a positive impact on employee innovation performance under the mediation of knowledge sharing. These characteristics must be comprehensively reflected in a certain leader, therefore, leaders who pay attention to individual care must also know how to motivate employees and explore their potential. Therefore, the mediating role of knowledge sharing in this study has been verified, and the theoretical model of female leadership trait-knowledge sharing-employee innovation performance can also be established.

6.2. Countermeasures

Based on the above analysis, female leadership characteristics have a positive impact on knowledge sharing and employee innovation performance. Therefore, countermeasures and suggestions are proposed from the following aspects:

From the social level, to break the bondage of inherent in traditional thought, create good public opinion environment for women's career development, and to build the professional environment of equality and tolerance requires many efforts and good use of new media propaganda, giving women more guidance in life, career planning, etc., to improve women's social participation.

From the perspective of enterprises, the development and improvement of female leadership cannot be separated from the support of enterprises. Enterprises are important platforms for women to give full play to their abilities, and enterprises need to create more opportunities and conditions for women's development. In the process of development, enterprises should not ignore the role of female employees, and should attract more

excellent women as leaders in the construction of leadership. Companies need to be more proactive in accepting the change of gender structure, and also need to help female employees break the ‘glass ceiling’ in the workplace with a positive attitude.

On an individual level, opportunity favors the prepared mind. Female leaders can expand employees’ innovative thinking and promote enterprises’ innovation performance by improving their own flexible leadership charm, motivating ability and intelligent stimulation ability, so as to achieve their own sustainable development. Social progress has given women more opportunities for equal development. As women in the workplace, they should also adapt to the requirements of the times and keep learning through various ways. In the context of Internet plus, it is necessary to have the ability to control and master media, learn to use media functions, and take initiative to strive for the right to speak. To be able to balance life and work, reasonably arrange time to study, and constantly improve their ability, only by enhancing their workplace adaptability, can they stand out in the fierce competition environment.

6.3. Research Contribution

The main contributions of this study are as follows: (1) it expands the research object from female executives to female leaders in the management level; (2) the research scale was constructed and, after supplementing previous scales, a scale suitable for this study was developed; and (3) a model of mediating effect of female leadership characteristics on employee innovation performance—knowledge sharing is proposed and demonstrated by empirical analysis.

6.4. Deficiencies and Prospects

First, the limitations of the number of research samples. Although 313 valid questionnaires have been collected in this paper, which can meet the needs of empirical research, the results of empirical analysis will be more convincing if more data can be collected on the topic of female leadership characteristics and employee innovation performance. Second, the subjective bias of data. This research adopts the way of questionnaire for data collection, although is anonymous way, but does not rule out some of the employees in the leadership scores when there will be a subjective emotional factor; at the same time in different stages of employees to leadership ratings may also vary, all the data collected from the objective conditions there is a deviation. Some obviously problematic data have been removed in the data processing, and some reverse questions can be added in the future research to further verify the results to ensure the objectivity of the data. Third, the limitations of variable and classification studies. In terms of variables, only knowledge sharing among employees is selected as a mediating variable to study the relationship between female leadership characteristics and employee innovation performance without further broadening. As for female leaders, there is no specific industry or enterprise type to make a comparison. This study focuses on the comprehensive analysis of this issue, and the more detailed direction of this field needs more detailed research. In future studies, the deficiencies mentioned above can be further discussed and continuously improved to further support the development of female leadership.

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Institutional Review Board Statement: Ethical review and approval were waived for this study, due to our research about positive aspects of female leadership.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

The Items in the Questionnaire and the Corresponding Acronym

RXLD4: My leadership is well managed and I have a wealth of professional knowledge.

RXLD3: My leader is very considerate to work arrangements, I admire his (her) ability very much, completely obey his (her) leadership

RXLD2: My leaders can lead by example, set a good example, and pay attention to the impact of their words and deeds on their subordinates

RXLD1: My leader is more friendly and cordial, and the office atmosphere is more harmonious

GXGH4: My leader cares about the personal growth of the employees and sincerely provides suggestions for the development of the employees

GXGH3: My leaders often work with employees to analyze the impact of work on overall goals, and let employees understand the company/department

GXGH2: My leaders are never stingy in praise to employees, and encourage employees to continue to advance through hard work, so as to realize their career dreams as soon as possible

GXGH1: My leaders will encourage employees who are frustrated at work to cheer up, forget the past, and keep fighting

JLGW4: My leaders often work with employees to analyze the impact of work on overall goals, and let employees understand the work plan and development vision of the company/department

JLGW3: My leaders can talk to employees about the future and explain the long-term meaning of the work

JLGW2: My leaders are never stingy in praise to employees, and encourage employees to continue to advance through hard work, so as to realize their career dreams as soon as possible

JLGW1: My leaders encourage employees who are frustrated at work to cheer up, forget the past, and keep fighting

ZNJF4: My leader will not go his own way. If new problems arise at work, they will discuss solutions with employees.

ZNJF3: My leadership can give employees a certain degree of freedom to work and encourage employees to be creative at work

ZNJF2: My leaders encourage everyone to actively discuss at work and improve work efficiency

ZNJF1: When my leader is in a meeting, he has no leadership frame, and he can listen to everyone's opinions humbly.

ZSGX5: In our company, knowledge sharing among employees allows us to solve many problems and improve organizational efficiency

ZSGX4: In our company, my leaders encourage employees to conduct regular work exchanges, share their work experience and skills, and improve overall work efficiency

ZSGX3: In our company, my leader will convey the guiding spirit of the superior to the employees as soon as possible and patiently answer the questions of the employees

ZSGX2: When my leaders encounter problems that they do not understand or understand at work, they will humbly seek advice from employees in relevant majors and listen to their explanations patiently.

ZSGX1: In our company, I can often ask my colleagues for advice and ideas on finding solutions to problems, and they are usually happy to help me.

CXJX5: Under the guidance of the leader, I can summarize feasible new working methods through self-learning, and propose original problem-solving solutions.

CXJX4: My leadership is open-minded, encourages employees to focus on innovative thinking and introduces innovative ideas in a systematic way

CXJX3: In our company, many employees have innovative ideas that can be translated into practical applications

CXJX2: My leaders will praise employees for their innovative ideas, and reward employees with outstanding performance in their work.

CXJX1: Under my leadership, I am willing to provide new ideas and take the initiative to learn new skills or tools to improve existing conditions

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