

Study on the Influence of Core Self-evaluation on Employees' Innovative Behavior

-- Based on Judge's Core Self-evaluation Theory

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Abstract

Based on the construction of the relationship model between core self-evaluation and employee innovative behavior, the relationship between these two variables can be explored. By surveying 334 employees, the corresponding core self-evaluation scale and employee innovative behavior scale data were obtained. The model data indicated that core self-evaluation positively influenced employees' innovative behavior.

Keywords

Core Self-evaluation; Employee Innovative Behavior; Personality Traits.

1. Core Self-evaluation Theory and Hypothesis

1.1. Research Background

The Fifth Plenary Session of the 18th Central Committee of the Communist Party of China (CPC) put forward the five major development concepts of "innovation, coordination, green, openness and sharing" for the first time, placing the concept of innovation in an important position [1]. "During the 14th Five-Year Plan, the national innovation-driven development strategy was formulated, with core technology and basic research development as the two most important key points [2]. Currently, the market environment has become more complex and the market competition faced by enterprises has become more intense based on the trade war and epidemic between the United States and China. In this era, innovation is becoming more and more the way of survival and development for Chinese enterprises. Companies should not only demand loyalty from their employees, but also stimulate their innovation and initiative. The innovative behavior of employees will promote them to generate innovative ideas, execute innovative ideas, and enhance the innovative ability of the organization. To a certain extent, the external performance of employees' innovative ability and innovative behavior has become the key to enterprise innovation, which is related to the survival and development of the enterprise. The innovative behaviors of employees are closely related to their individual personality traits. Some studies have shown that certain personality traits can positively predict certain innovative behaviors. It can be argued that some personality traits can have a greater impact on employees' innovative behavior, which makes the study of related topics particularly important.

1.2. Introduction to Core Self-Esteem Theory

It has been shown that core self-evaluation as a deep-seated personality trait can have an impact on employees' innovative behavior. Judge et al. first introduced the concept of core self-evaluation, which is a higher-order structure embodied by four traits: self-esteem, general self-efficacy, neuroticism, and locus of control, in 1997 when they tried to provide a comprehensive personality trait that could effectively predict satisfaction [3]. It is not difficult to find that core

self-evaluation, as a deep personality trait, can effectively predict employees' innovative behaviors. First, innovative behavior implies breaking the rules and changing the status quo. It has been shown that employees' personality traits can have a significant impact on employee innovation, and employees with high core self-evaluation tend to be more creative [4]. Employees with high core self-evaluation tend to be confident in their abilities, optimistic about the future and more likely to accept challenges than those with low core self-evaluation [5]. Second, high core self-rated employees tend to have a wealth of innovative resources to support their range of innovations. For example, high core self-rated employees have more expertise and more support from their leaders and colleagues [6]. In addition, although there are not many studies on the relationship between core self-evaluation and employees' innovative behavior at this stage, there are still some empirical studies that can indirectly prove the relationship between the two. Some scholars' research studies have shown that the stronger employees' self-efficacy is, the more likely they are to exhibit innovative behaviors [7]. Other scholars have shown that the lower the neuroticism tendency, the higher the tendency of employees to behave innovatively [8]. Individuals with high core self-evaluation have higher levels of self-efficacy and lower levels of neuroticism tendencies and thus are more likely to innovate.

1.3. Research Hypothesis

From the above analysis, it is clear that mastering the personality traits of employees is crucial to stimulate their innovative behavior, and the deep personality trait of core self-evaluation can effectively predict the innovative behavior of employees. Therefore, the study of core self-evaluation is extremely important. So, what is the relationship between core self-evaluation and employees' innovative behavior? Does core self-evaluation have little or significant impact on employees' innovative behavior? Does core self-evaluation affect only one category of employees' innovative behavior, or does it affect all employees' innovative behavior? Are there regional differences in the impact of core self-evaluation on employees' innovative behavior? To address the above questions, this study will select employees in different industries in certain regions as the research subjects, propose a theoretical hypothesis on whether there is a valid association between employees' core self-evaluation and employees' innovative behavior, and use an empirical method to verify the theoretical hypothesis. This study hypothesizes that there is a positive relationship between core self-evaluation and employee innovation behavior, so is this hypothesis valid? This study intends to construct an argumentative model with employee core self-evaluation as the independent variable and employee innovative behavior as the dependent variable, as shown in Table 1, in order to investigate the relationship between core self-evaluation and employee innovative behavior.

Table 1. Theoretical model Positive correlation



2. Research Objects and Tools

2.1. Research Object

In this study, data were collected in the Yangtze River Delta region using a survey questionnaire. The scale included the respondents' gender, age, city, the nature of their units, and the variables involved. Through the Internet, the scale was sent to colleagues or friends around. Finally, 334 samples were collected, of which 34 were invalid and 300 were adopted, and 89.8% of valid samples were collected. Among the samples: 134 (44.67%) were male and 166 (55.33%) were

female; the age groups were 18-25, 26-30, 31-40, 41-50, 51- 60 years old, 61 years old or above, respectively, 75 (25%), 71 (23.67%), 73 (24.33%), 37 (12.33%), 41 (13.67%), 3 (1%); the number of employees' enterprise types are state-owned enterprises, foreign enterprises, private enterprises, entrepreneurship, institutions, civil servants and others, respectively, 74 (24.67%), 9 (3%), 51 (17%), 12 (4%), 99 (33%), 4 (1.33%), and 51 (17%).

2.2. Research Instruments

(1) Core self-evaluation scale

The core self-evaluation scale developed by Judge et al. in 2003 was used, with 12 questions on a 5-point scale: 0 being totally disagree and 5 being totally agree, with higher total scores indicating higher core self-evaluation. The internal consistency coefficient of the scale is 0.84 [9].

(2) Employee innovation behavior scale

The employee innovative behavior scale revised by Zhang Zhengang, Yu Chuanpeng and Li Yunjian in 2016 was used, with 8 questions, still with a 5-point scoring method: 0 being completely disagree, 5 being completely agree, and the higher the total score, the higher the employee innovative behavior. The internal consistency coefficient of the scale is 0.844 [10].

(3) Statistical processing

In this study, SPSS 22.0 was used to conduct statistical analysis of data such as reliability analysis, descriptive analysis, analysis of variance, correlation analysis, and regression analysis. Reliability analysis was used to study the reliable accuracy of data responses for both variables; descriptive analysis and ANOVA were used to measure the effects of each control variable on the independent and dependent variables; the analysis of the degree of correlation between core self-evaluation and employees' innovative behavior was conducted using Pearson correlation analysis; and finally, regression analysis was used to verify the significance between the independent and dependent variables.

3. Research Results

3.1. Reliability Analysis

According to the statistical analysis of the data of the questionnaire survey in SPSS software No. 1, the reliability analysis of the core self-evaluation is as follows.

Table 2. Core self-assessment reliability analysis results

Scale	Cronbach alpha coefficient
Core self-evaluation	0.815

The alpha coefficient value of the core self-evaluation was 0.815, which meets the criterion of greater than 0.7 and has a satisfactory level of reliability.

Table 3. Results of confidence analysis of employees' innovative behavior

Scale	Cronbach alpha coefficient
Employee Innovation Behavior	0.892

The alpha coefficient value of employees' innovative behavior is 0.892, which meets the criterion of greater than 0.7, and the reliability level is ideal.

3.2. Descriptive Analysis

In order to understand the degree of influence of core self-evaluation on employees' innovative behavior from the scale data, this study analyzed the data descriptively by the criteria of minimum, maximum, mean, and standard deviation.

In this study, the five-point scoring method of Lippincott was used for measurement, with "1" representing the minimum value and "5" representing the maximum value.

(1) Descriptive analysis of core self-evaluation

By sorting and analyzing the questionnaire data, the descriptive analysis of core self-evaluation was as follows.

Table 4. Descriptive Analysis Results of Core Self-Assessment

Basic indicators						
Name	Sample size	Minimum value	Maximum value	Average value	Standard deviation	Median
Core self-evaluation	300	1.898	4.917	3.539	0.534	3.583

According to Table 4, the standard deviation of core self-evaluation is smaller than the mean, which means that the data do not have extreme outliers.

(2) Descriptive analysis of employees' innovative behaviors

Through sorting and analyzing the questionnaire data, the descriptive analysis of employees' innovative behaviors is as follows.

Table 5. Descriptive analysis results of employee innovation behavior

Basic indicators						
Name	Sample size	Minimum value	Maximum value	Average value	Standard deviation	Median
Employee Innovation Behavior	300	1.75	5	3.685	0.647	3.75

From Table 5, it can be found that the standard deviation of employees' innovative behavior is smaller than the mean, and the data do not show extreme outliers.

3.3. Analysis of Variance

This study will analyze the relationship of demographic variables on the main variables based on the sample data. The validation method is ANOVA WAY analysis.

By combing and analyzing the questionnaire data, the analysis of variance for the age group factor is as follows.

Table 6. Analysis of variance by age

	Quadratic sum	df	Mean square	F	Significance
Core self-evaluation	5.022	5	1.004	3.68	0.003
Employee Innovation Behavior	8.257	5	1.651	4.157	0,001

From the above table, it can be seen that using ANOVA to study the age groups, core self-evaluation (significance coefficient of 0.003, $p < 0.05$), and employee innovative behavior (significance coefficient of 0.001, $p < 0.05$) show significance, implying that there are differences in core self-evaluation, and employee innovative behavior for different age groups in the sample.

In conclusion, the different age groups in the sample showed significant differences for both core self-evaluation and employee innovative behavior.

3.4. Correlation Analysis

The two variables involved in this study, core self-evaluation and employee innovation behavior, are continuous variables. In order to measure and verify the degree of correlation between the two variables and to explore the relationship between their consistency changes, this study used the Person Correlation method for correlation analysis, and the results are shown in the following table.

Table 7. Correlation Analysis

	M	SD	1	2
Core self-evaluation	3.54	0.534	1	0.531**
Employee Innovation Behavior	3.68	0.647	0.531**	1

Note: *** means significant correlation at 0.001 level (two-sided); ** means significant correlation at 0.01 level (two-sided); * means significant correlation at 0.05 level (two-sided)

It is not difficult to find from the above table that there is a significant correlation between employees' innovative behavior and core self-evaluation, and the correlation coefficient value is 0.531 ($P < 0.01$), which means that the correlation in the sample data is as effective as the population. There was a significant positive correlation between core self-evaluations.

3.5. Regression Analysis

This study has verified the closeness of the relationship between core self-evaluation and employee innovation behavior through correlation. In order to further determine the relationship between variables, describe, explain or predict the relationship between the two variables, regression analysis is now used. Do further verification. In terms of specific methods, the regression analysis of the control variable on the target variable is performed first, and the regression state of the control variable on the target variable is observed without the interference of external variables; then the independent variable is added to observe the influence on the target variable.

Through the sorting and analysis of the questionnaire data, the regression analysis between core self-evaluation and employee innovation behavior is as follows:

Table 8. Regression analysis of core self-evaluation on employee innovation behavior

variable	Employee Innovation Behavior	
	M1	M2
Gender	-0.058	-0.096
Age	0.078	0.031
City	0.000	0.002
Type of enterprise	0.013	0.020
Industry type	-0.006	-0.003
Core Self-assessment		0.633
R^2	0.036	0.296
ΔR^2	0.020	0.281

From the above table, the regression coefficient of core self-evaluation on employee innovative behavior $\beta = 0.633$, $p < 0.01$, both passed the significance verification at 0.01 level, core self-evaluation has a positive significant effect on employee innovative behavior, and the higher the degree of core self-evaluation, the higher the degree of employee innovative behavior. The coefficient of ΔR^2 is 0.281, which shows that indicates that core self-evaluation explains 28.1%

of the change in employees' innovative behavior, therefore, the hypothesis that there is a significant relationship between core self-evaluation and employees' innovative behavior is verified.

4. Research Results

4.1. Results of Data Analysis

Firstly, the reliability of both core self-evaluation and employee innovation behavior is higher than 0.8, which indicates that the data of both variables are of high quality and can be further used for data analysis. Secondly, it is known from the descriptive analysis that the standard deviation of both variables is less than the mean, there are no extreme outliers, and the data are stable. Further, according to the ANOVA, it can be seen that the significance coefficients of both variables corresponding to the data presented by age groups are less than 0.05, indicating that different age samples present significant differences for both core self-evaluation and employee innovation behavior. Finally, the numerical results in the correlation analysis and regression analysis showed that core self-evaluation and employee innovative behavior showed a significant positive correlation, and core self-evaluation produced a significant positive influence relationship on employee innovative behavior. In summary, the questionnaire design is of high quality, the data is reliable, and the analysis shows that the variables have a direct and significant correlation and influence relationship.

4.2. Research Findings

Core self-evaluation significantly and positively influences employees' innovative behavior. The higher the level of core self-evaluation, the higher the degree of employees' innovative behavior. Further, employees with higher core self-evaluation tend to have higher job satisfaction and job performance and are better able to perform high stress and challenging jobs than those who are not confident and have lower evaluation of their own abilities.

5. Discussion

5.1. Theoretical Contribution and Application Value

(1) Theoretical contribution

Although many scholars at this stage have explored the influence of personality traits, leadership styles and other factors on employees' innovative behaviors, there are fewer studies that directly investigate the relationship between core self-evaluation and employees' innovative behaviors. Through empirical investigation, this study concludes that core self-evaluation, as an important personality trait, can effectively stimulate employees' innovative behaviors, which to a certain extent enriches the research on the influence of individual personality traits on their own attitudes and their own innovative behaviors, and helps to understand the inner motivation mechanism of employees' innovative behaviors.

(2) Application value

Firstly, the positive influence of core self-evaluation on employees' innovative behavior has important guiding significance for talent recruitment and talent development. In talent recruitment, bidders with high core self-evaluation should be selected, and in enterprise development, emphasis should be placed on cultivating employees with high core self-evaluation ability. Secondly, enterprises can assess the core self-evaluation of employees and target training to employees with low self-evaluation, thus improving their core self-evaluation and promoting the overall level of employee innovation. Finally, enterprises should also pay attention to the performance of employees' innovative work in employee management, and promote employees' real interest and passion for their work through motivating factors, so as

to avoid employees from being too stuck to a certain business work, which inhibits their innovative ability to improve.

5.2. Research Shortcomings and Outlook

The shortcoming of this study is that the sample of the study is only from the Yangtze River Delta region, and the representativeness of the sample is not enough. Future studies should further expand the scope of the sample. In addition, Li Guanghong et al. [11] (2011) showed that work engagement mediates the link between proactive personality and innovative behavior, suggesting to a certain extent that core self-evaluation may influence employees' innovative behavior through work engagement. This was not explored in detail in this study. In future studies, the relationship between core self-evaluation and employees' innovative behavior can be studied in depth using work engagement as a mediating variable.

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