A Multilevel Analysis and Empirical Study of the Influence of SHRM Perceptions on Employee Proactive Behavior

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Abstract Employee proactive behavior, as an important driver of organizational innovation and development, and its relationship with SHRM perceptions deserve in-depth exploration. This study uses a multilevel linear model to investigate the influence mechanism of strategic human resource management (SHRM) perceptions on employee proactive behavior. Using Enterprise X as the research object, the study collected data through a questionnaire survey, which included 100 employees and their immediate supervisors, and constructed a bi-level research model that included SHRM perceptions and employees' proactive behaviors. The study used a maturity scale to measure the eight dimensions of SHRM perceptions and employee-initiated behaviors, and the relationship between the two was revealed through descriptive statistics and regression analysis. The results of the study show that all dimensions of SHRM perception have a positive impact on employee proactive behavior, among which employee engagement perception has the most significant impact on proactive behavior, with a regression coefficient of 0.313 ($p<0.001$); employee development opportunities and performance management perception are the next most significant, with regression coefficients of 0.282 ($p<0.001$); and the regression coefficients for strategic consistency, and change management perceptions are 0.231 ($p<0.001$). The research model explained 43.5% of the variance in employee-initiated behavior, which was 13.9 percentage points higher than the control variable model. The findings of the study confirm the significant positive relationship between SHRM perceptions and employee proactive behaviors, and that companies can promote the generation of employee proactive behaviors by enhancing employee engagement, creating development opportunities, improving performance management, and enhancing strategic alignment, thereby enhancing organizational innovation and long-term performance.

Index Terms strategic human resource management, employee proactive behavior, multilevel linear model, strategic consistency, employee engagement, performance management

I. Introduction

With the increasing competition in the market, enterprises have turned their attention to the internal organization to stimulate employees' initiative in order to gain competitive advantages [1], [2]. Employee's initiative behavior at work can not only improve the employee's personal performance, but also benefit the long-term development of the enterprise [3], [4]. However, in the Internet era, "flat culture" prevails, and many employees are satisfied with the status quo and do not want to make progress [5]. "Lying flat" is not conducive to the career development of employees, and will also cause great trouble to the management, which is not conducive to the long-term development of the enterprise [6], [7]. Strategic human resource management (SHRM) emphasizes the linkage of human resource management with the competitive advantage and corporate strategy of the enterprise, affirms the important position of employees in the enterprise, and plays an important role in stimulating the initiative behavior of employees [8]-[11].

Since the 1990s, SHRM has been adopted by many companies as a management concept and method to improve corporate performance and employee satisfaction [12]. SHRM emphasizes the strategic nature of human resource management, which regards human resources as an important asset of an enterprise and achieves the long-term development goals of an enterprise through the rational allocation, cultivation and motivation of employees [13]-[15]. For enterprises, SHRM enhances their competitiveness by integrating human resource management with their strategic goals and ensuring that their decisions on human resources are aligned with their strategies [16]-[18]. SHRM emphasizes that human resources are regarded as an important asset of the enterprise, and that it improves the performance of the enterprise and the satisfaction of employees through the rational allocation, cultivation, and motivation of employees [19], [20]. For employees, SHRM encourages employees to participate in corporate decision-making and goal-setting, enhances employees' sense of belonging and

participation in the company, and focuses on employee cultivation and development by providing various training and development opportunities so that employees can continue to learn and grow [21]-[24]. In addition, SHRM improves employee satisfaction and loyalty through a reasonable incentive and welfare system, which can stimulate the initiative behavior of employees in the work of the enterprise, and is of great significance for improving the competitiveness and sustainable development of the enterprise [25]-[28].

In today's dynamic and changing business environment, organizations are facing unprecedented competitive pressures and innovation challenges. To maintain a sustainable competitive advantage, organizations need a highly motivated and creative workforce. Employee proactive behaviors, as unconventional behaviors spontaneously performed by employees and beneficial to organizational development, have become the focus of attention in both academic and practical fields. This type of behavior is not only reflected in the active identification and solution of problems, but also includes the generation, promotion and implementation process of innovative thinking. In the era of knowledge economy, employee proactive behavior has an important value for the enhancement of organizational innovation, adaptability and market competitiveness. However, the factors affecting employee proactive behavior are complex and diverse, in which the organizational environment and management practices play a key role.

Strategic Human Resource Management (SHRM) plays an important role in shaping employee behavior through systematic human resource policies and practices that closely integrate human resource management with organizational strategic goals. Unlike traditional HRM, SHRM emphasizes the consistency between HRM and organizational strategy, focuses on the systematic and synergistic nature of HR practices, and pays more attention to the long-term development and value creation of human capital. Existing studies have shown that SHRM practices can significantly influence employee attitudes and behaviors, such as organizational commitment, job satisfaction, and citizenship behaviors. However, there is a relative lack of research on how SHRM perceptions influence employee proactive behaviors, and especially limited exploration in a multilevel perspective.

Employee perceptions of SHRM are an important mediating mechanism that connects organizational SHRM practices with employee behaviors. Even if an organization has formulated sound SHRM policies, if employees do not have a proper understanding and positive perception of these policies, the actual effects of the policies will be greatly reduced. Employee SHRM perceptions not only include perceptions of specific HR practices, but also involve overall evaluations of organizational values, support, and fairness. This perception directly affects the employee's psychological contract, organizational identity, and behavioral motivation, which in turn affects his or her willingness to demonstrate proactive behavior.

The complexity of modern organizational structures dictates a multilevel perspective in the study of employee behavior. Employees are nested in teams and teams are nested in organizations, and it is difficult for single-level studies to fully capture this complex relationship. Multilevel linear modeling, as an advanced method of statistical analysis, is a powerful tool for studying organizational phenomena, as it can deal with both individual-level and organizational-level variations, and more accurately estimate the relationships between variables at different levels.

This study will explore the mechanism of SHRM perception on employee proactive behavior based on multilevel linear model. First, a theoretical framework is constructed to identify eight key dimensions of SHRM perceptions: strategic alignment, policy and practice fairness, employee development opportunities, sense of organizational support, performance management and feedback, employee engagement, change management perceptions, and trustworthiness perceptions, and to analyze how these dimensions affect employee proactive behavior. Second, primary data of employees and their supervisors in Enterprise X are collected through questionnaires and empirically analyzed using multilevel linear models to verify the theoretical hypotheses. Finally, management insights are proposed based on the findings to provide guidance on how companies can promote employee-initiated behavior through SHRM practices. This study not only enriches the theoretical research in the field of SHRM and employee behavior, but also provides valuable references for corporate practice.

II. Enterprise X SHRM model study

II. A. Overview of enterprise X

Enterprise X, part of the world's largest supplier of flash data memory card products, is a wholly foreign-owned company located in City B, Province A, and was licensed to operate in 2000. The 47,000-square-meter factory is a vertically integrated manufacturing facility that designs, develops, produces, tests and distributes flash memory products. As an industry-leading assembly and test site, Enterprise X is capable of completing the assembly of 4.1 million dies per day as well as complex multi-die packages. By the end of 2024, Enterprise X had more than 4,000 employees, of which more than 3,500 were regular employees and the rest were outsourced or contracted employees, categorized by functional area into research and development, production, human resources and other categories.

II. B.Enterprise X SHRM model

(1) Recruitment and Selection

Enterprise X has an internal recruitment system. The recruitment department will regularly publicize the job positions and requirements to all employees, encourage internal recommendation, and if the recommendation is successful, the recommender will be rewarded accordingly. In addition, each department will regularly conduct internal meetings to recognize employees with outstanding contributions (including innovative achievements), and the recognized employees may get the corresponding bonuses, and even get the opportunity to be promoted.

(2) Training and Development

Enterprise X stipulates that each employee is required to design his/her own annual training objectives and training programs, and the company has trained a number of trainers in various fields. The training department designs appropriate training programs for employees at different stages or levels, and regularly provides training resources and opportunities for employees to choose from. The company encourages continuing education and has entered into contracts with a number of schools to provide employees with learning opportunities and academic certification, and will also financially support some of the education costs of employees.

(3) Performance Appraisal

According to the results of the interviews, it is found that different areas will design their own performance appraisal indexes, and the employee's performance will be judged according to the degree of fulfillment of KPIs in the quarterly appraisal. If there is outstanding performance, the employee will have the opportunity to be recognized as a quarterly outstanding employee, and then have the opportunity to be selected as an annual outstanding employee. The innovation of the human resources department is mainly reflected in the system, although it appears from time to time, but it is not obvious, but because the corporate values include innovation, so the assessment is set up in the degree of matching between the individual employee and the corporate values, which is still in the initial stage, and there are no specific indicators to be assessed. In addition to daily performance appraisal, the company has also set up a special Innovation Committee and its team to conduct quarterly review, assessment and reward of innovation award applications submitted by employees, and publicize them throughout the company, in the hope of playing an exemplary role.

III. Prediction of employee-initiated behaviors based on multilevel linear models

III. A. Multi-level linear modeling

In using multilevel linear models [29]-[31] to analyze the impact of SHRM perception on employee proactive behavior, let's first introduce multilevel linear models. Multilevel linear model is a kind of statistical analysis model used to analyze data with hierarchical structure, which has the characteristics of model assumptions being more consistent with reality and results being more reasonable in interpretation compared with traditional statistical methods. Specifically, multilevel linear models have the following advantages:

(1) Observe the information of random errors and explanatory variables under different levels, so that the standard errors, interval estimates and hypothesis tests obtained from estimation are more accurate and effective.

(2) Allows us to get the level of influence of different levels on the explanatory variables by calculating the percentage of variation at different levels in the total variation.

(3) Also as an extension of structural equation modeling, it can be used to analyze the causal relationship between variables at different levels with a multilevel structure and to build a multilevel structural equation model.

(4) By analyzing data from multiple measurements, measurements can be viewed as the first level and test individuals as the second level.

(5) Then there are discrete data distributions that can be analyzed, such as data with binomial and Poisson distributions.

The process of multilevel linear model estimation begins with the estimation of the null model, which is the first step in testing whether a hierarchical model is needed for hierarchical data. In the null model there is no explanatory variables in the first and second levels, but only the equation is decomposed into the part caused by individual differences and the part caused by the differences between groups, and this analysis is called ANOVA, which leads to the estimation of between-group and within-group effects. The necessity of using multilevel modeling is detected mainly by calculating the intergroup correlation coefficient (ICC), which is the first step in the estimation using multilevel modeling, and the null model is of the following form:

First level: $Y_{ij} = \beta_{0j} + e_{ij}$.

Layer 2: $\beta_{0j} = \gamma_{00} + \mu_{01}$.

From the results of the estimation, we can get $Var(e_{ij}) = \sigma^2$ and $Var(\mu_{01}) = \tau_{00}$ and so the correlation coefficients can be calculated for the intergroups and the empirical significance of the ICC is that it is possible to

determine what proportion of the overall variance in Y is due to the second layer of the variation in the variables, explained by the formula:

$$\rho = \tau_{00} / (\tau_{00} + \sigma^2) \tag{1}$$

The full multilevel model is based on the null model with the addition of one and two layers of explanatory variables thus allowing for a theoretical construct to explain how the overall variation in Y is affected by the factors in one and two layers.

Layer 1: $Y_{ij} = \beta_{0j} + \beta_{1j} X_{ij} + e_{ij}$.

Layer 2: $\begin{aligned} \beta_{0j} &= \gamma_{00} + \gamma_{01} W_{1j} + \mu_{0j} \\ \beta_{1j} &= \gamma_{10} + \gamma_{11} W_{1j} + \mu_{1j} \end{aligned}$.

Combining the above two layers yields: $Y_{ij} = \gamma_{00} + \gamma_{10} X_{ij} + \gamma_{01} W_{1j} + \gamma_{11} X_{ij} W_{1j} + \mu_{0j} + \mu_{1j} X_{ij} + e_{ij}$. Model estimation is preceded by the assumption that $E(e_{ij}) = 0, var(e_{ij}) = \sigma^2, E(\mu_{0j}) = 0, var(\mu_{0j}) = \tau_{00}, E(\mu_{1j}) = \tau_{11}$, $cor(\mu_{0j}, e_{ij}) = cor(\mu_{1j}, e_{ij}) = 0, cor(\mu_{0j}, \mu_{1j}) = \tau_{01}$. Where layer one has i cells $(i = 1, 2, 3...)$ nested in layer two with j cells $(j = 1, 2, 3, ...)$ in. The $\beta_{0,j}$ and $\beta_{1,j}$ are random variables distinguished from constants in ordinary linear regression regressions, but are further decomposed into a constant γ_{00} or γ_{10} with a random number μ_{0j} or μ_1, of which $\gamma_{00}, \gamma_{01}, \gamma_{10}$ and γ_{11} are the coefficients of the two-tiered regression equation, also referred to as fixed effects. X_{ij} is the explanatory variable of the layer-one regression equation, representing the value of the independent variable X in group j for the i th observation. W_{1j} is the explanatory variable for the layer two regression equation. e_{ij} is the random error of the Layer 1 regression equation, representing the residuals of Layer 1, which means the portion of the measured value of the i th observation in the j th group Y that cannot be explained by the independent variable X. μ_{0j} and μ_{1j} are the random effects of the layer two regression equation. σ^2 is the variance of the layer one regression equation. $\tau_{00}, \tau_{11}, \tau_{01}$ are the variances and covariances of the layer two regression equation.

III. B. Prediction of Employee-Initiated Behavior

After introducing the multilevel model, the next step is to combine this method to predict employee-initiated behavior. The variables are first stratified: the first level is the employee and the second level is the company. The basic idea of the model is assumed to be represented at the employee level by $i = 1, 2, ..., I$ and the firm level is represented by $j = 1, 2, ..., J$, and the employee i is nested in the enterprise j. If $\ln c_{ij}$ is the logarithm of the number of active behaviors of each employee, and X_{ij} is a set of employee characteristics of employee i in enterprise j, then the following regression equation can be established:

$$\ln c_{ij} = \beta_{0j} + \beta_{1j} X_{ij} + e_{ij} \tag{2}$$

In this equation, the error term e_{ij} reflects unexplained prediction error in proactive behavior. The variable equation (2) in the equation is represented by two subscripts: an employee i and another business j. This means that this is assuming that the parameters β_{0j} and β_{1j} are different across firms, and then various characteristics Z_j are brought in to estimate the firm values of the respective coefficients:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} Z_j + \mu_{0j} \tag{3}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11} Z_j + \mu_{1j} \tag{4}$$

The error terms μ_{0j} and μ_{1j} represent secondary residuals, i.e., unexplained errors at the firm level. Thus, equations (3) and (4) reflect the impact of enterprise characteristics Z_j on employee consumption, and the estimated values are different for different enterprises, but all employees i in the same community j are the same. Getting a comprehensive model can be written as:

$$\ln c_{ij} = \gamma_{00} + \gamma_{01}Z_j + (\gamma_{10} + \gamma_{11}Z_j)X_{ij} + \mu_{0j} + \mu_{1j}X_{ij} + e_{ij} \qquad (5)$$

Use maximum likelihood to estimate the above equation. The first part of equation (5) reflects the deterministic part of the equation, including the interaction term X_iZ_j, which analyzes the interactions of the cross-variables between employees and firms. The second part represents the stochastic part of the model.

Comparing the estimates with standard least squares, the regression error term in equation (5) contains not only the employee component e_{ij}, but also the firm's component $\mu_{0j} + \mu_{1j}X_{ij}$. The error term μ_{0j} in this equation denotes the unexplained difference in the firm's unexplained response to the intercept $\beta_{0,j}$, while the error term $\mu_{1j}X_{ij}$ reflects the unexplained difference in the slope β_{1j} at the firm level, and the error term e_{ij} denotes the unexplained difference in residential consumption at the employee level. The stochastic part of equation (5) justifies the composition of the errors estimated using the multilevel model. Given that the employee-level error component e_{ij} is independent of all employees, the errors at the firm level, μ_{0j} and μ_1, are independent of each other.

IV. Empirical research design

In this section, based on the literature review, a multilevel model of the influence of employee-initiated behavior based on SHRM perceptions was constructed in the previous section to explore the mechanisms and boundaries of SHRM perceptions influencing employee-initiated behaviors and to propose research hypotheses. In order to validate the proposed hypotheses, this section designs the questionnaire and determines the final scale on the basis of integrating the mature scales of each variable.

IV. A. Measurement of variables

This study encompasses 2 variables: perception of SHRM as the independent variable, which includes 8 dimensions of strategic alignment, policy and practice fairness, employee development opportunities, sense of organizational support, performance management and feedback, employee engagement, perception of change management, and perception of trustworthiness. Employee Initiative Behavior as a Dependent Variable. Control variables include age, gender, education, position, and marital status. Mature scales with high reliability and validity were selected for each variable, and a five-point scale was used, with 1=completely disagree and 5=completely agree, with higher scores representing higher SHRM perceptions, a greater sense of psychological security, and a greater likelihood of proactive behavior.

IV. A. 1) Measurement of SHRM perception

The SHRM Perception Scale measures the 8 dimensions of SHRM perception by asking respondents whether they perceive their superiors to be willing to rely on them and share information. In this study, the SHRM perception scale was developed according to the independent variables, such as strategic alignment including "the company's human resources policy supports our long-term business goals", "performance appraisal standards are closely related to the company's strategy", "the company's promotion opportunities are fair to employees", "salary distribution is strictly in accordance with objective standards", and employee development support includes "the company provides sufficient training to improve skills", "clear career development path", etc. SHRM perception was measured by a scale.

IV. A. 2) Measurement of Employee Initiated Behaviors

Measures of proactive behavior include interviews, situational judgments, and scales, and although the first two measures of proactive behavior are more comprehensive and can effectively address the issue of social appropriateness of scales, scales are the most widely used given the operationalization of the study. In this study, proactive behavior was considered as a multidimensional variable, including proactive behavior idea generation, promotion, implementation, self-driven, teamwork, and innovative proposals, and a self-developed employee proactive behavior scale was used to evaluate the impact of SHRM perceptions on employee proactive behavior.

IV. B. Data collection

This paper focuses on whether SHRM perception affects employees' proactive behaviors, and after literature combing and interviews, it is found that proactive behaviors exist in both manufacturing and high-tech enterprises as well as other industries. This study obtains primary data by designing and distributing questionnaires, distributing the questionnaires to members of the relationship network through WeChat, e-mail and other platforms, and entrusting better-connected classmates to spread and forward the questionnaires, so as to obtain the data needed for the study in a snowballing manner.

V. Empirical analysis

V. A. Descriptive statistics

In this paper, a questionnaire was used to collect data, based on the scale designed above, to survey Enterprise X. The questionnaire was used to collect data, based on the scale designed above. Employees were asked to rate their perceptions of the SHRM of the enterprise, while employee supervisors were asked to rate the proactive behavior of their subordinate members. A total of 100 employees and supervisors of Enterprise X were surveyed. A total of 100 questionnaires each were distributed to employees and supervisors, and finally 100 questionnaires each were collected, and after deleting the invalid questionnaires, a total of 100 sets of questionnaires were matched successfully, and 100 questionnaires each for supervisors and employees. The survey was conducted from June 2024 to August 2024.

In this paper, Cronbach's alpha coefficients are used to test the reliability coefficients of the SHRM perception and employee-initiated behavior variables constructed above, and the reliability coefficients of each variable are shown in Table 1. The data in the table shows that the reliability values of the eight dimensions of SHRM perception ranged from 0.943 to 0.989, and the composite SHRM perception reliability value was 0.994. The reliability values of the dimensions of Employee Initiative Behavior ranged from 0.935 to 0.983, and the reliability value of the composite Employee Initiative Behavior was 0.987. The reliability of each variable is greater than 0.9, indicating that the scale designed in this paper has good reliability.

Table 1: The reliability coefficient of each variable

Variable	A coefficient	Variable	A coefficient
SHRM	0.994	Active behavior	0.987
Occupational safety	0.943	Idea generation	0.935
Internal flow	0.965	Idea promotion	0.983
Employee participation	0.971	Ideas implementation	0.961
In-depth training	0.963	Ego drive	0.952
Performance evaluation	0.954	Team collaboration	0.949
Job description	0.989	Innovation proposal	0.956
Personnel discrimination	0.968		
Incentive return	0.964		

In terms of validity test, validation factor analysis was applied to verify the validity of SHRM perception and employee-initiated behavior subscales, and Table 2 shows the results of validation factor analysis for each variable. As can be seen from the table, the actual values of RMSEA <0.03, RMR <0.02, GFI >0.9, CFI >0.9 of the validation model are all within the acceptable range, and the loading coefficients of each loading coefficient are all greater than 0.5, and the above analyses show that each variable of SHRM perception and employee-initiated behaviors has high reliability and validity.

Table 2: Analysis of variables verified by variables

	SHRM	Active behavior
CFI	0.997	0.998
GFI	0.989	0.983
RMR	0.013	0.017
RMSEA	0.027	0.033
X^2/df	3.400	2.800

SHRM perception consists of 8 dimensions, namely strategic alignment, policy and practice equity, employee development opportunities, organizational support, performance management and feedback, employee engagement, change management perception, and credibility perception. The questionnaire covered 8 dimensions of questions, such as "the company's human resources policy supports our long-term business goals", "performance appraisal standards are closely related to the company's strategy", etc. Through questionnaire collection and statistics, we can understand the impact of SHRM perception on employees' innovation behavior.

Descriptive statistics of the 8 dimensions of employees' perception of SHRM were used to understand the specific impact of SHRM perception on employees' proactive behavior. Figure 1 shows the descriptive statistics of the 8 dimensions of employees' perception of SHRM. As can be seen from the figure, employees' perceptions of corporate strategy consistency, policy and practice fairness, employee development opportunities, sense of organizational

support, performance management and feedback, employee engagement, change management perceptions, and trustworthiness scored 4.09, 3.74, 3.90, 3.82, 3.57, 3.72, 3.46, 3.77, respectively, which suggests that employees are able to effectively perceive the corporate personnel and organizational strategy etc. changes. The implementation of the SHRM model in the enterprise will signal its positive innovation to employees and guide them to explore the innovation path through in-depth training, performance incentives, and so on.
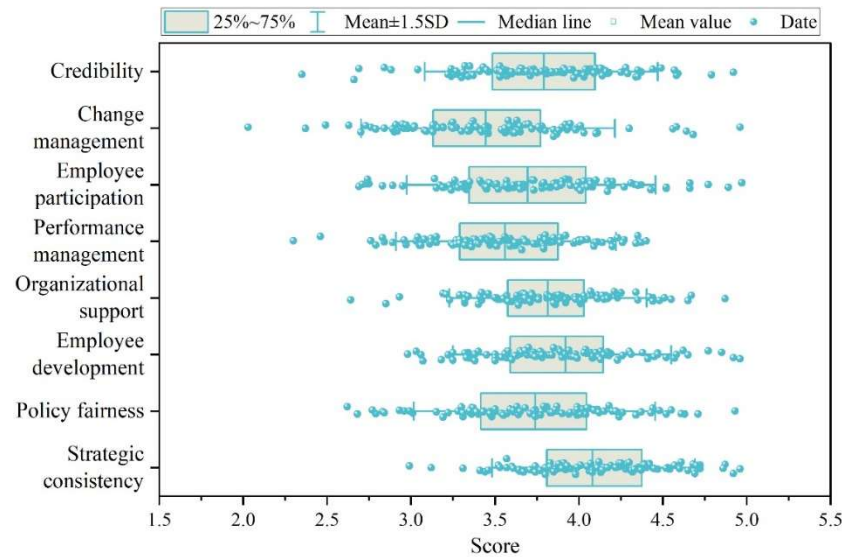

Figure 1: Analysis of variables verified by variables

In addition, the study investigated the descriptive statistics of employee-initiated behaviors by business executives under the SHRM model. The results of descriptive statistics of employee proactive behaviors are shown in Figure 2. From the figure, it can be seen that the executives' ratings of employees' proactive behaviors under the SHRM model are in the middle to upper level, and the average scores of idea generation, promotion, implementation, self-driven, teamwork, and innovative proposal are 3.67, 3.40, 3.97, 3.89, 3.80, 3.34, and 3.82, respectively.It indicates that the SHRM perceptions of the proactive behaviors of the employees have a certain guiding effect on the proactive behaviors of the employees, and its effect on the employees' proactive behavior is further analyzed below using multilevel linear model.
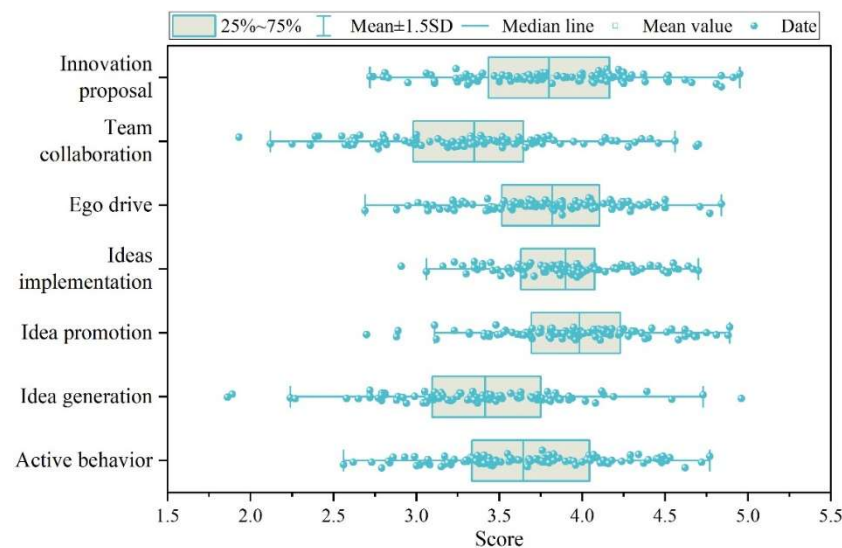

Figure 2: Employee initiative behavior descriptive statistics

V. B. Regressivity analysis

Correlation analysis is a statistical analysis of the degree of association between variables. This study addresses the correlation analysis of the influence mechanisms between SHRM perceptions and employee-initiated behaviors to determine their interconnectedness and to determine whether regression analysis is appropriate. The SHRM perceptions of strategic alignment, policy and practice fairness, employee development opportunities, sense of organizational support, performance management and feedback, employee engagement, change management perceptions, credibility perceptions, and employee-initiated behaviors were noted as variables 1 to 9 in that order.

Table 3 shows the results of the correlation analysis between SHRM perceptions and employee-initiated behaviors. Through the correlation analysis, it can be seen that the correlation coefficients between strategic consistency, policy and practice fairness, employee development opportunities, sense of organizational support, performance management and feedback, employee participation, change management perception, and credibility perception and employee-initiated behaviors are 0.312, 0.409, 0.544, 0.471, 0.206, 0.449, 0.564, 0.501, and $p < 0.001$, that is, there is a significant relationship between the eight variables of SHRM perception and employee-initiated behavior, and the regression prediction of SHRM perception on employee-initiated behavior can be carried out.

Table 3: The correlation analysis of SHRM perception and employee active behavior

Variable	1	2	3	4	5	6	7	8	9
1	1								
2	0.104 (**)	1							
3	0.267 (***)	0.012	1						
4	0.215 (**)	0.049	-0.028	1					
5	-0.009	-0.207 (***)	0.117 (**)	0.078	1				
6	-0.021	0.058	0.306 (***)	0.256 (**)	0.052	1			
7	0.036	0.026	-0.257 (**)	0.179 (*)	-0.104 (**)	0.258 (***)	1		
8	0.125 (***)	0.082	-0.126 (*)	0.002	0.192 (**)	0.051	-0.069	1	
9	0.312 (***)	0.409 (***)	0.544 (***)	0.471 (***)	0.206 (***)	0.449 (***)	0.564 (***)	0.501 (***)	1
Mean	3.931	3.733	3.867	3.892	3.948	3.356	3.741	3.453	3.423
SD	1.014	0.892	1.144	0.956	0.753	0.724	0.929	1.026	1.047

Note: *$p<0.05$, **$p<0.01$, ***$p<0.001$, same below

In order to analyze the effect of SHRM perception on employee proactive behavior, this study proposes the hypothesis that SHRM perception has a positive effect on employee proactive behavior, and uses a multilevel linear model to test whether the research hypothesis is valid. Employee gender, age, education, position, and marital status were used as control variables, the eight dimensions of SHRM perception were used as independent variables, and employee-initiated behavior was used as the dependent variable to construct the regression model. The results of the study of employee-initiated behavior were obtained as shown in Table 4.

Model 1 is the effect of control variables on employee active behavior, from model 1, it can be seen that the moderating effect of employee's gender, age, education, position and marital status on employee active behavior is not significant, and the regression coefficient ranges from 0.014 to 0.31, $p>0.05$, which indicates that the control variables do not play a moderating role in the effect of employee active behavior. And the strength of R2 to explain the model is 29.6%.

Model 2 is the inclusion of SHRM perception factors on the basis of control variables, from which it can be seen that there is a highly significant relationship between strategic alignment, policy and practice fairness, employee development opportunities, sense of organizational support, performance management and feedback, employee engagement, change management perception, and trustworthiness perception and employee proactive behaviors, with regression coefficients ranging from 0.156 to 0.313, $p < 0.01$. When the above factors are increased by 1 unit,

the proactive behavior of employees is significantly increased by 0.156 to 0.313, so the hypothesis of this study is proved, i.e., SHRM perception has a positive effect on the proactive behavior of employees.

Table 4: Employee initiative behavior research results

Variable		Dependent variable (Active behavior)	
		Model 1	Model 2
Control variable	Gender	0.025	0.049
	Age	0.029	0.023
	Educational background	0.014	0.014
	Position	0.031	0.021
	Marital status	0.022	0.026
Independent variable	Strategic consistency		0.231***
	Policy fairness		0.156***
	Employee development		0.282***
	Organizational support		0.215***
	Performance management		0.282***
	Employee participation		0.313***
	Change management		0.231***
	Credibility		0.206***
R^2		0.296	0.435
F		21.773***	36.846***

VI. Conclusion

The results of multilevel empirical analysis confirm that strategic human resource management perceptions have a significant positive impact on employee proactive behaviors. The eight dimensions of SHRM perceptions, including strategic alignment, fairness in policies and practices, opportunities for employee development, sense of organizational support, performance management and feedback, employee engagement, perception of change management, and perception of trustworthiness are all significantly positively correlated with employee proactive behaviors, and their regression coefficients are respectively 0.231, 0.156, 0.282, 0.215, 0.282, 0.313, 0.231 and 0.206 ($p<0.001$). The data show that the most significant effect of employee participation perception on proactive behavior indicates that employees are more inclined to show proactive behavior when the company fully respects their opinions and encourages them to participate in the decision-making process. Through the multilevel analysis model, the explanation rate of this study's model for the total variation in employee proactive behavior reached 43.5%, which is 13.9 percentage points higher than the base model containing only control variables, indicating that SHRM perception is an important factor influencing employee proactive behavior. It is found that employees' positive perception of strategic human resource management practices can effectively stimulate their innovative thinking and behavioral initiatives, especially when the corporate innovation atmosphere is synergistically aligned with human resource strategies, employees' proactive behaviors are more prominent. Corporate managers should pay attention to the formation mechanism of employees' SHRM perception, and build a supportive organizational environment by optimizing the design of human resource policies, strengthening the transparency of policy implementation, enhancing employee participation, creating development opportunities, etc., so as to promote the emergence and development of employees' proactive behaviors, and ultimately enhance the organization's innovation capability and market competitiveness.

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