

COMPENSATION MANAGEMENT OPTIMIZATION IN MANUFACTURING ENTERPRISES: A CASE STUDY OF COMPANY A*

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Abstract

This study aims to: 1) identify the main weaknesses in the compensation management system of Company A, a small and medium-sized emergency equipment manufacturing enterprise in Nanchang, China; 2) examine how compensation level competitiveness, compensation structure rationality, compensation adjustment scientificity, and career development pathway accessibility affect compensation management effectiveness, employee work performance, internal fairness perception, and turnover intention; and 3) propose an operable compensation optimization framework for manufacturing enterprises with both technology-intensive and labor-intensive characteristics. A mixed-method case-study design was adopted. Quantitative data were collected from 192 valid questionnaires among 274 full-time employees and analyzed using SPSS 26.0 through descriptive statistics, reliability and validity testing, Pearson correlation, multiple regression, and mediation analysis. Qualitative evidence was

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obtained from 11 semi-structured interviews with frontline employees, middle managers, and senior managers.

Results show that: 1) employees evaluated the current compensation system at a relatively low level, especially in career development pathway accessibility; 2) compensation level competitiveness significantly improved compensation management effectiveness ($\beta = .724, p < .001$); 3) compensation structure rationality significantly improved employee work performance ($\beta = .712, p < .001$), and work motivation partially mediated this relationship; 4) compensation adjustment mechanism scientificity significantly improved internal fairness perception ($\beta = .735, p < .001$); and 5) career development pathway accessibility significantly reduced turnover intention ($\beta = -.728, p < .001$). The study recommends market-based benchmarking, differentiated pay structures, transparent salary adjustment rules, and a dual-track career development system.

Keywords: Compensation management, Manufacturing enterprise, Pay competitiveness, Career development, Turnover intention.

Introduction

Compensation management has become a crucial strategy for manufacturing companies because it impacts not only labor cost control but also employee motivation, sense of fairness, performance quality, and retention. In technology-intensive manufacturing environments, skilled employees possess irreplaceable production knowledge, equipment operation experience, design capabilities, and customer service expertise. Therefore, an inefficient compensation system can pose potential operational risks even before manifesting as financial problems. Recent HR research indicates that compensation, reward fairness, and incentive design are closely related to

employee engagement, performance, and turnover intentions (Berber & Gašić, 2024; Kumar & Vasudevan, 2024; Lucifora & Origo, 2022).

Company A is an emergency equipment manufacturing enterprise located in Nanchang, China. The company researches, develops, manufactures, and sells diesel generator sets, heavy oil generator sets, mobile trailer-mounted power stations, and silent generator sets. In the market where the company operates, product reliability, technical response speed, and after-sales stability directly affect customer trust. However, the initial diagnosis of Company A revealed four interrelated compensation issues: compensation levels for several core technical and management positions were below industry benchmarks; the compensation structure failed to adequately differentiate job characteristics; compensation adjustments lacked transparent quantitative standards; and career development relied primarily on a single management promotion path. These issues undermined employees' expectations of fair rewards and long-term development.

This case study has significant academic implications because small and medium-sized manufacturing enterprises often face a conflict between cost control and talent retention. Unlike large enterprises, they may not be able to increase compensation levels for all positions. Therefore, compensation reform must balance external competitiveness, internal equity, performance differentiation, and non-monetary development opportunities. Recent discussions on compensation transparency further demonstrate that transparent compensation rules can improve employees' understanding of career income and fairness, but poorly designed transparency can also lead to employee dissatisfaction if the compensation structure itself is flawed (Cullen, 2024). This study integrates compensation competitiveness, compensation structure, adjustment mechanisms, and career development paths into an analytical framework and links statistical results with Company A's actual reform measures.

Objectives

1. To examine the status and major problems of compensation management in Company A, with attention to compensation level competitiveness, compensation structure rationality, compensation adjustment mechanism scientificity, and career development pathway accessibility.
2. To analyze the effects of the four compensation-management dimensions on compensation management effectiveness, employee work performance, internal fairness perception, and turnover intention.
3. To test the mediating role of work motivation in the relationship between compensation structure rationality and employee work performance.
4. To propose a practical compensation-management optimization framework for Company A and similar small and medium-sized manufacturing enterprises.

Literature Review

Compensation management refers to the design, implementation, and adjustment of financial and non-financial rewards for employees. It includes fixed salaries, variable salaries, allowances, benefits, incentives, recognition, training, and career development paths. In manufacturing companies, compensation should support production stability, technological innovation, service reliability, and employee retention, rather than simply being a wage cost (Bag et al., 2022).

Compensation competitiveness reflects whether the compensation for key positions is comparable to that of similar positions in the external labor market. When employees perceive their compensation as below their contribution or market value, they are more likely to experience external unfairness and have a higher intention to leave. Recent research on compensation systems and employee mobility indicates that compensation satisfaction and commitment are important mechanisms for employees to

evaluate whether to stay with the organization (Berber & Gašić, 2024). In Company A, this dimension is particularly important for R&D, senior technical, and management positions because these employees have high replacement costs and high market mobility. Compensation structure rationality refers to whether fixed salary, variable salary, welfare benefits, allowances, and performance incentives are arranged according to job characteristics and contribution differences. Manufacturing enterprises contain different job sequences, including R&D, production, engineering service, marketing, and administration. A uniform pay structure may be administratively simple, but it often fails to reflect the different risk, skill, creativity, and performance-output features of each position. Performance-related pay can improve productivity when targets are clear, measurable, and accepted by employees; however, incentive systems may also fail if they encourage short-term behavior or if employees perceive the criteria as unfair (Lucifora & Origo, 2022). Therefore, rational compensation structures should combine stability with differentiation.

Work motivation provides an important explanation for why compensation structure influences employee performance. From the perspective of two-factor theory, pay and benefits reduce dissatisfaction, while recognition, achievement, responsibility, and development opportunities strengthen positive motivation. Recent empirical work applying two-factor theory shows that salary-related factors and growth-related factors jointly shape job satisfaction and performance-related attitudes (Lee et al., 2022). Similarly, wages, appreciation, recognition, and promotion can influence employee performance through job satisfaction and motivation (Kumar & Vasudevan, 2024). In this study, work motivation is treated as a mediating mechanism between compensation structure rationality and employee work performance.

Compensation adjustment mechanism scientificity concerns the rules, procedures, standards, timing, and communication methods through which salary changes are made. A scientific adjustment mechanism should be transparent,

measurable, consistently implemented, and linked to performance results, skill certification, job-value changes, market salary movement, and organizational affordability. Organizational-justice research emphasizes that employees care about both distributive justice and procedural justice. When the process is unclear, employees may still perceive unfairness even when the final salary outcome is not objectively low (Abuelhassan & AlGassim, 2022; Mulgund, 2022). Pay-transparency research further suggests that transparency can influence employee motivation and fairness perception, but transparency must be supported by credible rules and explainable pay logic (Cullen, 2024).

Career development pathway accessibility is a non-monetary but highly influential component of total rewards. In many manufacturing enterprises, promotion depends heavily on movement into management positions. This design is unsuitable for technical specialists who prefer professional advancement. If employees cannot see a clear future inside the enterprise, salary increases alone may not prevent turnover. Evidence from retention research shows that burnout, resignation, and employee stability are affected not only by monetary rewards but also by job conditions, support systems, and perceived long-term value (Linos et al., 2022). Therefore, a dual-track system that includes both management and professional pathways can help enterprises retain technical employees and improve organizational continuity.

Based on the above literature, this study develops four hypotheses. H1: Compensation level competitiveness positively affects compensation management effectiveness. H2: Compensation structure rationality positively affects employee work performance. H3: Compensation adjustment mechanism scientificity positively affects internal fairness perception. H4: Career development pathway accessibility negatively affects turnover intention. In addition, work motivation is expected to mediate the relationship between compensation structure rationality and employee work performance.

Methodology

This study adopted a mixed-method case-study design. A case-study approach was appropriate because the research focused on a specific enterprise and aimed to diagnose practical compensation-management problems rather than produce broad industry generalizations. The quantitative component tested the relationships among compensation-management variables, while the qualitative component explained why employees evaluated the compensation system in a particular way.

The research population consisted of 274 full-time employees of Company A. Stratified sampling was conducted according to job sequence and management level so that R&D and technical employees, production employees, engineering service employees, marketing employees, administrative employees, junior staff, middle managers, and senior managers were represented. A total of 200 questionnaires were distributed and 192 valid responses were retained for analysis, representing 70.1% of the employee population. This response structure was sufficient for a company-level diagnostic study and provided adequate coverage of key employee coverage groups.

The questionnaire used a five-point Likert scale and measured compensation level competitiveness, compensation structure rationality, compensation adjustment mechanism scientificity, career development pathway accessibility, internal fairness perception, work motivation, compensation management effectiveness, employee work performance, and turnover intention. Before formal data analysis, the questionnaire was checked for clarity, construct consistency, and suitability for employees in different job categories. The qualitative data were collected through 11 semi-structured interviews with frontline employees, middle managers, and senior managers. Interview questions focused on perceived compensation problems, fairness concerns, incentive effects, salary-adjustment experience, and career-development expectations.

Quantitative data were analyzed using SPSS 26.0. Descriptive statistics were used to assess the overall evaluation of compensation management. Cronbach's alpha, KMO value, and Bartlett's test of sphericity were used to examine measurement quality. Pearson correlation analysis was conducted to observe the direction and strength of relationships among variables. Multiple regression analysis was used to test the four hypotheses. Mediation analysis and the Sobel test were used to examine whether work motivation mediated the relationship between compensation structure rationality and employee work performance. Qualitative interview evidence was then used to interpret the statistical results and refine the optimization recommendations. Participation was voluntary and anonymous. Interview evidence was reported only in summarized form, and sensitive personnel information was not disclosed.

Results

Descriptive results show that employees evaluated Company A's current compensation management system at a relatively low level. The mean scores of the four main compensation-management dimensions ranged from 2.32 to 2.55, indicating that employees were not satisfied with the existing pay system. Among the four dimensions, career development pathway accessibility received the lowest evaluation. Interview evidence supported this result: technical employees reported that they could improve their skills but could not clearly see how those skills would translate into position level, salary range, or professional recognition.

Measurement results indicated good internal consistency and data suitability. The overall Cronbach's alpha coefficient was .964. The KMO value was .966, and Bartlett's test of sphericity was significant, $\chi^2 = 2383.709$, $df = 66$, $p < .001$. These results demonstrate that the questionnaire data were suitable for correlation, regression, and mediation analysis.

Correlation analysis showed that the four compensation-management dimensions were positively related to fairness, motivation, compensation effectiveness, and performance, while they were negatively related to turnover intention.

Multiple regression analysis supported all four hypotheses. Compensation level competitiveness had a significant positive effect on compensation management effectiveness ($\beta = .724$, $t = 14.434$, $p < .001$). Compensation structure rationality had a significant positive effect on employee work performance ($\beta = .712$, $t = 14.026$, $p < .001$). Compensation adjustment mechanism scientificity had a significant positive effect on internal fairness perception ($\beta = .735$, $t = 14.726$, $p < .001$). Career development pathway accessibility had a significant negative effect on turnover intention ($\beta = -.728$, $t = 14.576$, $p < .001$).

Mediation analysis further showed that work motivation partially mediated the relationship between compensation structure rationality and employee work performance. After work motivation was included in the model, the standardized coefficient of compensation structure rationality decreased from .712 to .292, while work motivation remained significant ($\beta = .603$, $p < .001$). The Sobel test was significant ($z = 7.462$, $p < .001$), and the mediation effect accounted for 60.7% of the total effect. This means that a rational compensation structure improves performance not only directly but also indirectly by strengthening employees' motivation to contribute.

Table 1. Summary of Hypothesis Testing Results

Hypothesis	Path	β	t-value	p-value	Result
H1	Compensation level competitiveness →	0.724	14.434	$p < 0.001$	Supported

Hypothesis	Path	β	t-value	p-value	Result
	Compensation management effectiveness				
H2	Compensation structure rationality → Employee work performance	0.712	14.026	$p < 0.001$	Supported
H3	Compensation adjustment mechanism scientificity → Internal fairness perception	0.735	14.726	$p < 0.001$	Supported
H4	Career development pathway accessibility → Turnover intention	-0.728	14.576	$p < 0.001$	Supported

Note. X1 = compensation level competitiveness; X2 = compensation structure rationality; X3 = compensation adjustment mechanism scientificity; X4 = career development pathway accessibility; M1 = internal fairness perception; Y1 = compensation management effectiveness; Y2 = employee work performance; Y3 = turnover intention.

Mediation analysis further revealed that work motivation partially mediated the relationship between the rationality of the compensation structure and employee performance. After incorporating work motivation into the regression model, the standardized coefficient of the rationality of the compensation structure decreased from 0.712 to 0.292, while work motivation remained significant ($\beta = 0.603$, $p < 0.001$). The Sobel test result was significant ($z = 7.462$, $p < 0.001$), with the mediation effect accounting for 60.7% of the total effect. This finding indicates that a reasonable compensation structure can

directly and indirectly improve employee performance by enhancing work motivation.

Overall, the results show that Company A's compensation management problems are concentrated in four areas: insufficient compensation competitiveness, unreasonable compensation structure, unclear compensation adjustment standards, and limited career development paths. These problems affect the effectiveness of compensation management, employee performance, internal fairness perception, and turnover intention. Therefore, the empirical results strongly demonstrate the necessity for Company A to optimize its compensation management system.

Discussion

The findings show that compensation optimization in Company A should not be understood as a simple salary-increase issue. Compensation level, structure, adjustment process, and career pathway form an interconnected system. Raising salaries without clarifying pay rules may temporarily reduce dissatisfaction, but it will not solve internal fairness concerns. Similarly, introducing performance incentives without differentiating job categories may increase pressure without improving motivation. Therefore, the study supports a systemic compensation-management reform.

First, compensation level competitiveness significantly improved compensation management effectiveness. This finding is consistent with recent research showing that compensation systems influence employee commitment and turnover-related attitudes (Berber & Gašić, 2024). For Company A, the practical implication is that core technical positions, senior engineers, and key marketing positions should not be evaluated only by internal affordability. Because these employees have high market value and replacement costs, low

external competitiveness directly weakens the credibility of the compensation system.

Second, compensation structure rationality significantly improved employee work performance, and work motivation partially explained this relationship. This result supports the argument that performance-related pay can be effective when incentives are matched with measurable contribution and meaningful job characteristics (Lucifora & Origo, 2022). However, the interview findings also indicate that employees do not only want more bonuses; they want a structure that recognizes different job values. R&D employees expected project and innovation incentives, production employees emphasized safety and quality bonuses, and marketing employees preferred transparent performance commissions.

Third, compensation adjustment mechanism scientificity significantly improved internal fairness perception. This result is consistent with organizational-justice research that emphasizes the role of transparent and consistent procedures (Abuelhassan & AlGassim, 2022; Mulgund, 2022). In Company A, employees were dissatisfied not only with the amount of salary adjustment but also with the lack of clear explanation. Therefore, salary adjustment should be based on measurable criteria such as performance results, skill certification, job value, market salary changes, and seniority contribution.

Fourth, career development pathway accessibility significantly reduced turnover intention. This finding is especially important for emergency equipment manufacturing, where accumulated technical experience is critical for product reliability and after-sales service. A single management-promotion path forces technical employees to choose between professional identity and career growth. A dual-track system can reduce this contradiction by allowing employees to progress as engineers, senior engineers, experts, and chief experts without leaving the professional track.

The study is limited to one enterprise; therefore, the findings should be interpreted as case-based evidence. Future research may compare multiple manufacturing enterprises and use longitudinal data to evaluate compensation reform after implementation.

Recommendation

Company A should establish a market-based compensation benchmarking mechanism for key positions. Positions can be classified by strategic importance, technical scarcity, replacement cost, and contribution to product reliability or market expansion. R&D, senior technical, engineering service, and key marketing roles should be prioritized rather than increasing all salaries equally.

Design differentiated compensation structures according to job characteristics. R&D and technical positions should receive project incentives, innovation rewards, skill allowances, and professional-development support. Production positions should combine stable fixed salary with safety, quality, attendance, and process-improvement bonuses. Marketing positions should use transparent commission and renewal incentives linked to sales quality, customer retention, and market development. Administrative positions should be evaluated by internal service quality, process efficiency, and responsibility fulfillment. This design can improve the match between pay components and job value.

Company A should standardize its compensation adjustment mechanism. Salary adjustment should be conducted on a regular cycle and based on quantifiable indicators, including performance evaluation, skills certification, job-value changes, market salary movement, seniority contribution, and internal equity. Adjustment rules should be written, communicated, and reviewed.

Employees should have access to feedback channels so that they understand why a salary adjustment was approved, delayed, or rejected.

Establish a dual-track career development system. The management track may include team leader, supervisor, department manager, senior manager, and executive positions. The professional track may include junior engineer, intermediate engineer, senior engineer, expert, and chief expert. Each level should be linked to salary range, skill standards, project responsibility, training opportunities, and promotion requirements. This system can help technical employees see long-term development opportunities without being forced into management roles.

Connect compensation reform with organizational strategy. Compensation indicators should reflect not only workload but also product quality, project delivery, innovation capability, after-sales response, customer renewal, and safety performance. Reform effectiveness should be reviewed every six to twelve months through employee satisfaction, core-staff turnover, project quality, defect rate, and customer-renewal indicators.

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