Compensation System Design for SMEs and Its Relationship with Employee Motivation in the Digital Economy

Zeyu Zhu

Department of International Organizations and Global Governance, Tianjin Foreign Studies University, Tianjin, China

zhuzeyu@lsu.edu.gn

Abstract. With the rapid development of the international economy, small and medium-sized enterprises (SMEs) are becoming increasingly prominent in market importance. However, they continue to face challenges of talent drain and insufficient incentives. To enhance SMEs' market competitiveness, it is imperative to redesign remuneration structures that better align with modern systems. In the era of the digital economy, the design of a compensation system and employee motivation are inextricably linked, especially for small and medium-sized enterprises (SMEs). Amid rapid technological advancements and intensifying market competition, companies must leverage innovative compensation strategies to attract, retain, and incentivize talent, thereby strengthening their core competitiveness. This paper examines how SMEs in the digital age can harness advanced technologies, such as big data analytics and artificial intelligence, to evaluate employee performance with greater precision. The goal is to create customized compensation packages and establish a system that is equitable, transparent, and competitive, ultimately driving the sustainable growth of the enterprise.

Keywords: Digital Economy, Employee Motivation, Big data technology, Non-Material Incentives.

1. Introduction

The surge of the digital economy is driving profound changes in the organizational structures and talent requirements of small and medium-sized enterprises (SMEs). As technologies like artificial intelligence and big data become widespread, a growing mismatch has emerged between the inflexibility of traditional compensation systems and the diverse needs of the modern workforce. Data from the China Academy of Information and Communications Technology shows that China's digital economy surpassed 55 trillion RMB in 2023, accounting for 42.8% of the nation's GDPssed 55 trillion RMB in 2023, accounting for 42.8% of the nationraditional compensation systems and the diverse needs of the modern workforce. Data from the China Academy of [1].

SMEs now face a twofold challenge in designing their compensation systems. On the one hand, the younger generation of employees places a much higher value on personalized incentives and clear career development paths. On the other hand, the adoption of digital tools has fundamentally altered how job value is assessed, and performance is measured.

While research indicates that differentiated compensation can boost employee satisfaction, most SMEs in China remain constrained by monolithic pay structures and a lack of long-term incentives. This reliance on outdated systems can lead to employees becoming disengaged from company performance and focus solely on personal gain [2]. Employee behavior is a major factor in a company's profitability, particularly for technology and manufacturing firms that have an urgent need for highly skilled talent. In these enterprises, attracting and retaining talent is a direct driver of revenue. Therefore, to maintain a competitive edge, it is crucial for SMEs to adapt to the digital economy by optimizing their compensation systems to improve employee retention [3].

2. A breakdown of compensation systems in different types of SMEs

2.1. Technology-based SMEs

The compensation systems of technology-based SMEs are shaped by the dual pressures of limited resources and high demand for talent, creating unique design challenges. In most of these firms, fixed salaries constitute approximately two-thirds of total compensation, with significant pay disparities across different roles. Unlike industry leaders and large corporations, most tech SMEs have either not implemented equity incentives or have found them to be ineffective, a problem often linked to employees' lack of confidence in the company's long-term prospects [4].

2.2. Manufacturing SMEs

In manufacturing SMEs, compensation is often dominated by piece-rate wages, as many of these businesses operate in basic industrial manufacturing. Their revenue is largely generated from the production of core products, making the efficiency and quality of frontline workers paramount. Consequently, these workers are typically paid on a piece-rate basis, which directly ties their earnings to factory output. Management, in contrast, generally operates on a "fixed salary plus performance bonus" model, where bonuses can account for 30% to 40% of their total income. This structure effectively incentivizes managers to oversee and optimize production, as their own earnings are directly linked to performance [5].

2.3. Service-based SMEs

Service-based SMEs typically have multifaceted revenue models, deriving income from monetizing services, integrating resources, and innovating with technology. Accordingly, most roles use a "low fixed, high variable" pay structure. Although base salaries are modest, employees can earn significant total compensation through project-based incentives and commissions [6]. This system encourages employees to prioritize short-term projects. However, the dominance of variable pay can lead to substantial fluctuations in monthly income, making long-term client relationships less appealing to staff. As a result, this focus on immediate gains may cause the company to lose out on valuable long-term clients.

3. Key features and challenges of modern compensation systems

3.1. Constructing a data-driven compensation system

Big data technology offers a new, scientific methodology for designing compensation systems, addressing the static and subjective shortcomings of traditional models [7]. By creating an internal

data chain, companies can use APIs to integrate data from HR, finance, and performance systems into a comprehensive data pool. This internal data is then benchmarked against external sources, such as salary reports from recruitment platforms, government statistics, industry-wide compensation surveys, and data from competing firms. This approach enables precise salary setting and personalized compensation management, which significantly boosts employee satisfaction and motivation. Furthermore, it standardizes compensation expenditures, preventing inefficient spending and eliminating the biases and inequities inherent in subjective, manual processes.

3.2. Innovative mechanisms linking performance appraisal to compensation

To effectively link pay to performance, companies must avoid the twin pitfalls of focusing solely on results and practicing egalitarianism (i.e., treating all performers equally). While many firms have adopted performance-based pay—a clear departure from traditional fixed salaries—most SMEs have only implemented it superficially. This is often because SMEs, driven by resource constraints, market pressures, and a survival-first mindset, tend to prioritize short-term profits [8]. This short-term focus is mirrored in their performance reviews, where poorly designed incentives often fail to increase employee satisfaction and instead create undue pressure. When employees perceive a mismatch between their effort and their reward, they lose confidence and initiative. A truly effective system requires a long-term vision, incorporating dual-track incentives, transparent multi-dimensional evaluations, and frameworks like the Balanced Scorecard (BSC). By quantifying both financial metrics (e.g., sales) and non-financial ones (e.g., customer satisfaction, process improvements), companies can streamline their compensation system, remove outdated components, and more effectively motivate their workforce.

3.3. Reinforcement of non-material incentives

Non-material incentives are an essential complement to any compensation system. While financial rewards are important, they are subject to diminishing returns, and companies cannot endlessly increase salaries without compromising profitability. Non-material rewards, however, can satisfy employees' higher-order needs. A strong corporate culture is one of the most powerful non-material motivators, providing significant psychological and emotional encouragement [9]. Other effective methods include recognition programs, such as on-the-spot awards and celebrating top performers as role models. This taps into the fundamental human need for validation and is highly effective at boosting employee initiative. Furthermore, providing clear and transparent career pathways—including dual-track promotion systems (e.g., technical and managerial)—powerfully motivates employees to pursue advancement. Although these opportunities are not immediate financial rewards, they are directly tied to an employee's long-term interests and significantly enhance loyalty and retention. By offering clear opportunities for growth, a company signals its investment in its people, encouraging them to excel in their roles to earn future promotions, higher pay, and better benefits.

4. Recommendations for compensation system optimization

4.1. Dynamic compensation mix: building a multi-dimensional incentive network

The key to optimizing a compensation system is to move beyond monolithic pay structures and establish a dynamic mix of base salary, performance bonuses, long-term incentives, and flexible benefits. Employees are naturally driven to maximize their earnings and universally desire higher

pay and better benefits. Therefore, to effectively motivate them, a company's compensation structure must account for both the value of a specific role and the unique contributions of the individual. This can be achieved by introducing broadbanding, a model that allows for dynamic adjustments with multiple pay grades within a single job position.

High employee turnover has become a significant challenge for SMEs in recent years, disrupting business continuity. A robust and dynamic compensation system is therefore crucial for stabilizing operations. By implementing a differentiated pay design, base salaries should be benchmarked at the 75th percentile of the market to remain externally competitive. For instance, the base salary for core roles in the financial sector might constitute 40-50% of total compensation, whereas for sales roles, it could be as low as 30%. This structural flexibility helps align compensation with role-specific demands and talent expectations. For performance bonuses, a dual-track system is recommended. Short-term bonuses should be linked to quarterly KPI achievements with a tiered payout structure (e.g., meeting 100% of the target unlocks the base bonus, with an additional 10% payout for every 5% of overachievement). Long-term bonuses should be tied to strategic project milestones and utilize deferred payment mechanisms to encourage a focus on the company's sustainable growth.

For core technical staff, companies should explore hybrid incentive plans that include restricted stock units (RSUs) and project co-investment opportunities. For example, some high-tech firms have successfully implemented "Technology Commercialization Bonus Plans," allocating 15% of the revenue from patent commercialization to a dedicated incentive pool. This pool is then distributed to R&D staff based on their individual contributions, with payouts vesting over a three-year period. This creates a direct link between employee compensation and the market success of their innovations. The flexible benefits system should be structured like a menu. Beyond mandatory statutory benefits, it should offer optional perks such as health and wellness (upgraded commercial insurance), learning and development (subsidies for professional certifications), and lifestyle services (flexible work stipends). Employees should be able to customize their benefits package based on their personal needs and career stage, with opportunities to make adjustments at least twice a year.

Compensation bands must be supported by a dynamic benchmarking process. The authors recommend a quarterly review that involves analyzing big data from HR technology platforms and public salary disclosures from competitors. This data should be used with percentile analysis to continually update pay ranges for each position [10]. For high-demand, critical roles (e.g., AI engineers), compensation should be benchmarked at the 90th percentile to attract top talent. Conversely, for more common roles (e.g., administrative staff), pay can be positioned at the 50th–60th percentile to effectively manage labor costs.

4.2. Incentive plans: balancing compliance and motivation

High employee turnover is a persistent challenge for SMEs, largely due to their inherent vulnerability to market risks, which can undermine employee confidence in the company's long-term stability. Human needs naturally progress from basic to advanced; once fundamental financial and security needs are met, employees begin seeking higher-level fulfillment. Initially, many join SMEs to earn a living and gain valuable experience. However, once they achieve a degree of financial security and professional success, they often look for larger platforms or better compensation to advance their careers—a practice commonly known as "job hopping." This results in a significant loss of core talent for many SMEs. To combat this attrition and attract highly skilled professionals, equity incentive plans have proven to be a highly effective strategy for retaining key employees [11].

To design an effective equity plan, companies should implement a contribution matrix assessment and a dynamic eligibility mechanism. The authors recommend a "Four-Dimensional Contribution Model" that quantifies eligibility based on: strategic value (30%), technical scarcity (25%), sustained performance (25%), and cultural fit (20%). A dynamic eligibility system should establish a two-year observation window, where employees accumulate points through quarterly reviews. Those who reach the required threshold can then be granted eligibility in batches, a method that maintains high standards while mitigating the moral risks of ad-hoc grants.

From a compliance standpoint, a three-pronged "legal-tax-financial" framework is essential. Legal agreements must clearly define vesting conditions, including non-compete clauses, and researchers recommend a tiered vesting schedule with a three-year lock-up period followed by a two-year exercise period. For tax planning, a hybrid model of stock options and restricted stock units (RSUs) can be used to distribute taxable income across different periods, leveraging deferred tax policies to reduce the employee tax burden.

Incentive innovation should focus on a "three-ization" reform: first is the diversification of incentive targets, where in addition to actual shares, innovative tools such as virtual shares and profit-sharing plans can be set up; second is the flexibilization of benefit realization, exploring the dynamic linking of equity returns to strategic indicators like the company's ESG rating and R&D investment intensity; finally is the marketization of the exit mechanism, establishing an internal equity trading platform and introducing third-party valuation agencies to ensure that the equity exit of departing employees both complies with the Company Law of the People's Republic of China and guarantees reasonable returns.

4.3. Industry adaptation and compliance assurance

Compensation systems must be meticulously designed to reflect industry-specific characteristics. For technology SMEs, the authors recommend a "technical innovation premium model," where 15-20% of the total compensation budget is allocated to a dedicated technology incentive fund, with payouts vesting in phases tied to the commercialization lifecycle of R&D achievements. For manufacturing firms, the focus should be on optimizing piece-rate wage calculations through intelligent systems. This can be achieved by using IoT devices to collect real-time production data and integrating it with a Manufacturing Execution System (MES) for automated payroll settlement.

A robust three-dimensional compliance framework is necessary to navigate regulations from industry bodies and government agencies. For legal compliance, the pay structure must adhere to the Labor Contract Law of the People's Republic of China regarding total wage composition. For example, fixed salary should be no less than 1.5 times the local minimum wage. For tax compliance, a "four-layer tax firewall" should be implemented: clearly distinguish between taxable and non-taxable wage items, apply deferred tax policies for equity incentives, cap welfare expenses at 14% of the total wage bill, and utilize tax credit mechanisms for expatriate employees. For data security, the compensation management system must achieve high-level security certification (e.g., MLPS Level 3), with all sensitive data encrypted and access granted on a need-to-know basis (the principle of least privilege).

Varying regulations across industries necessitate a dynamic compliance monitoring system. The authors recommend a quarterly update to an Industry Compensation Compliance Manual, which should track three key policy areas: national wage payment regulations, securities commission guidelines on equity incentives (especially for pre-IPO companies), and industry-specific mandates (such as clawback provisions for financial institutions). Multinational corporations must also build a country-specific compliance matrix. For instance, operations in the EU must adhere to GDPR for

data protection, while those in certain Southeast Asian countries must comply with local rules on expatriate compensation ratios.

5. Conclusion

As digital transformation accelerates, compensation management is shifting from a traditional cost center to a strategic investment hub. Policymakers should develop a tailored framework that introduces differentiated fiscal and tax incentives for compensation. This approach would address the unique characteristics of different sectors, such as the long R&D cycles of tech companies, the cash flow volatility of manufacturers, and the project-based nature of service firms. Industry associations should spearhead the creation of a "Cloud-Based Compensation Benchmarking Platform." This platform would leverage blockchain technology to facilitate the secure and trustworthy sharing of salary data among companies, effectively breaking down information silos while safeguarding confidential business information. Notably, the organizational shifts driven by metaverse technology are reshaping the very logic of employee motivation. The rise of novel incentive tools, such as virtual equity and digital badges, empowers SMEs to motivate their talent by transcending the boundaries of traditional, material rewards.

References

[1] Liang, W., Han, Y.F. (2025) Research on the Mechanism of Digital Infrastructure Enhancing Corporate Sustainable Development Performance—Empirical Evidence from Chinese Listed Companies. Industrial Technology & Economy, 44(06), 79-89.

[2] Chen, S. (2024) Evaluation of the Impact of Differentiated Compensation Management on Employee Motivation. China Economic and Trade Herald, (08), 172-174.

[3] Deng, H. (2023) Analysis of Optimization Strategies for SME Compensation Management Systems. Modern Business, (22), 105-108.

[4] Chen, G.F. (2022) A Study on the Compensation System Optimization of YNWJ Company, a Technology-Based Private SME. Kunming University of Science and Technology.

[5] Zhang, P. (2024) Research on T Company.gkmlu.2022.001137nology of YNWJ Cnt Problems and Optimization Countermeasures. Nanchang University.

[6] Fan, M. (2023) Research on the Incentive Plan Optimization for H Company. South China Normal University.

[7] Zheng, G.T. (2025) Research on Innovative Paths for Compensation Management in the Big Data Era. Petrochemical Technology, 32(04), 365-366.

[8] Ji, H.Y. (2023) Research on Employee Motivation Problems in Micro and Small Enterprisesa Era-Based Ppany in Nanning, Guangxi as an Example. Bohai Rim Economic Outlook, (03): 68-70.

[9] Xue, B.Y. (2025) Research on the Problems and Countermeasures of Motivating Millennial Knowledge Workers. Enterprise Reform and Management, (08), 70-72.

[10] Yu, X.Y. (2024) Establishing a Linkage Mechanism Between Compensation Level and Benefit Efficiency to Improve Compensation Management Level. Petroleum Organization and Personnel, (11), 44-48.

[11] Wang, P.T. (2022) Analysis of the Causes and Countermeasures of Employee Turnover in SMEs. International Public Relations, (19), 25-27.