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## Research on Employee Incentive Mechanism of State-Owned Enterprises in the Era of Big Data: Take H Water Conservancy Engineering Company as an Example

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### **Abstract:**

*With the advent of the era of big data, the development models of various sectors of the social economy have changed, and there are more and more market opportunities, but competition and challenges have also come along. As an important productive force in the competition and development of modern society, talent has become increasingly prominent in the digital process. Especially for state-owned enterprises, which are essential lifelines and pillars of the national economy, the quality of talent is the key to the success or failure of enterprises. This article intends to reveal the existing problems in the talent incentive process of state-owned enterprises through a case study of the employee incentive mechanism of H Water Conservancy Company and conduct a detailed analysis of the specific reasons. Then, it proposes targeted incentive mechanism optimization plans to provide some valuable reference suggestions for state-owned enterprises to find appropriate talent cultivation and innovation strategies in the increasingly fierce competition.*

**Keywords:** State-owned enterprise, employee incentive mechanism, salary system

### **1. Introduction**

In recent years, with the rapid development of science and technology, digitization has gradually permeated all walks of life. The era of big data has brought more opportunities and challenges to social and economic development, and talent has become increasingly prominent in the development of modern society, becoming an important thrust for scientific and technological progress and production development. In the era of big data, with economic development and market changes, the original enterprise form needs further transformation and upgrading to cope with the changing market. As an important lifeline and pillar of the national economy, the smooth transformation and upgrading of state-owned enterprises are of great significance for the orderly development of the market economy and the promotion of comprehensive national strength. In the context of the big data era, the innovative awareness of state-owned enterprises in talent cultivation plays an essential role in promoting how their resources are allocated and how they should transform existing operating mechanisms and management models. State-owned enterprises must begin to attach full importance to the role of employee motivation from an ideological perspective, rationally and effectively apply various positive and effective incentive measures, enhance the current and future competitiveness of enterprises, and ensure that both enterprises and employees can achieve their respective goals during the entire growth process.

The term 'motivation' refers to the process of fully and comprehensively stimulating employees' work motivation and maximizing their enthusiasm for work, and urging employees to strive to achieve the overall goals of the enterprise in order to achieve their personal work goals. This process is from the inside out. Whether employees are motivated, or the extent to which they perceive motivation can be measured. The incentive mechanism can be understood as the continuous guidance of employees to fully display their personal value in their work under the guidance of specific methods and a complete and independent management system to achieve the overall goal of the enterprise. The design and optimization of incentive mechanisms should consider multiple factors to promote strengths and avoid weaknesses.

Theoretically, incentive mechanisms are not single-minded. Research should be based on the guidance of multiple incentive theories, combined with the enterprise's development situation and practical background, and adopt various types of incentive measures to fully stimulate employees' initiative to meet their development needs. Correctly applying and fully exerting the effectiveness of incentive mechanisms can generate a higher sense of collective honor among employees and provide them with a harmonious external environment. At the same time, to a certain extent, it can also play a restrictive role in their behavior. For employees, a sound incentive mechanism first meets their basic personal needs. For enterprises, when employees' work attitudes have shifted from negative to positive, achieving corporate goals is twice

the result with half the effort. When employees are constantly motivated, personnel turnover will naturally decrease, and enterprises can develop more healthily and orderly. In addition, the exertion of the role of incentive mechanisms can stimulate employees to mentally burst out with strong work motivation, thereby helping employees to improve their own work efficiency as much as possible. The incentive mechanism can urge employees to keep forging ahead and upward, fully master professional knowledge, possess good ideological quality, and ensure that employees can have a correct world outlook.

In the current talent market, the soundness and standardization of incentive mechanisms have become a key factor in the competitiveness of modern enterprises. The salary, emotion, culture, etc., of an enterprise will give the enterprise a unique charm. The operation of incentive mechanisms can help employees generate upward psychology and help enterprises achieve their goals as early as possible and carry out the next step of work. However, a set of incentive mechanism systems that are inherently unsound, non-standard, or unfeasible is highly likely to affect the enthusiasm of some employees. When employees' work enthusiasm is suppressed, their motivation will also be suppressed, and the enterprise will be greatly limited in the next development process. Therefore, H Water Conservancy Engineering Company must establish a sound incentive mechanism and continuously optimize it, giving full play to the role of more effective incentive factors for employees. On the one hand, improving the incentive mechanism has broken the traditional 'big pot' situation in the enterprise, enabling enterprising employees to actively learn new knowledge and innovate new construction concepts. On the other hand, the rationality of income distribution is one of the essential reference bases for talents when selecting enterprises. The rationalization of the income distribution will overcome the dilemma of human resource management and revitalize enterprises.

## 2. Fundamental Theory

In terms of path selection for studying employee incentive mechanisms, experts and scholars mainly explore and research from the following theoretical perspectives:

The first is based on Maslow's hierarchy of needs theory. In 1943, the hierarchy of needs theory was first introduced. American psychologist Maslow believes that human needs include five different levels, from basic clothing, food, shelter, and transportation to complex self-realization. If ranked in order of importance to people at five levels, physiological needs are the most basic needs that must be addressed, followed by safety needs, social needs and respect needs, and finally, the highest level of self-actualization needs. In the process of constantly pursuing higher-level needs, human society has been promoted and developed.

Based on Maslow's hierarchy of needs theory and the estimation table of American workers' needs, domestic scholars combined with American scholar Davis deduced that the hierarchy of employees' needs in an enterprise is not a single one among them but usually, multiple needs are parallel in the needs system of enterprise employees. When needs are not met, employees are encouraged to take corresponding incentive actions. In the employee needs system, after employees have a sense of satisfaction with lower-level needs, it is inevitable to continue to pursue higher-level needs. Relatively speaking, higher-level needs can motivate employees to work out corresponding behaviors.

The second is based on the dual factor theory. In 1959, the dual factor theory elaborated by American psychologist and behavioral scientist Frederick Herzberg emphasized that among many work factors, some can lead to employee satisfaction in the work process, while others can only prevent employee dissatisfaction. Among them, the work factors that make employees feel satisfied are all related to the work itself or the work content. Herzberg called them motivation factors, while the work factors that make employees feel dissatisfied are all related to the work environment or work relationships. Herzberg called them health factors.

Under the current model, compensation can be seen as a combination of fixed and flexible compensation, wherein the former, i.e., the unchanged part of compensation, can be seen as a health factor. Flexible compensation is an incentive factor. The part of flexible compensation is paid according to specific standards and varies from person to person. This type of differential compensation can bring different psychological feelings to different employees and enhance their sense of satisfaction, fully understand the differences between 'health factors' and 'motivation factors,' fully understand the different perceptions of different employees about the two factors, and treat them differently. The motivation of enterprise employees must be combined with the personal characteristics of employees. Employees with different personalities and characteristics also have different levels of recognition of the incentives given by the enterprise.

When it comes to specific incentive factors, foreign experts and scholars have considered the possible impact of employee unemployment costs, suggesting that high wages can improve employee loyalty, and through further research, the importance of fairness has been raised. After integrating the previous two factors, the necessity of an effective regulatory mechanism is proposed. Many domestic scholars have also conducted further research and discussion on the basis of the principle of fairness.

Regardless of which theory to start from, material motivation is the most fundamental and direct incentive method. A thorough study of material incentives and fully optimizing material incentive schemes as the first step of the entire incentive mechanism can be taken well.

Experts and scholars have basically the same opinions on the issues arising in the employee incentive mechanism, which can be understood from the following perspectives:

First, the corporate culture and internal training system are not perfect. Leaders fail to correctly understand the meaning of corporate culture, and the incentive measures are too unified, and not specific, and detailed. Currently, the main problems in human resource management in enterprises are reflected in two aspects: the imperfect talent training mechanism and the imperfect incentive system.

Second, there is a lack of targeted incentives. Appropriate introduction of competition mechanisms can motivate employees to work hard. Currently, most enterprises define the amount of compensation based on job title. Even if an employee works very hard, if the job title is not promoted, there is no difference between the salary and the previous one.

Therefore, employees psychologically believe that there is no difference between doing something and not doing it, which makes it very difficult to form an effective competitive incentive mechanism. Thirdly, the communication and feedback mechanism between enterprise leaders and employees is not smooth. The application of incentive theory needs to consider the following two aspects. One is the quality of employees. If employees have high personal qualities, applying motivation theory will be more effective. If personal qualities are low, even if motivation theory is applied, the effect will not be good. Secondly, in applying incentive theory, it is necessary to consider whether the salary and ability of employees match. In reality, the career development of enterprise employees does not receive sufficient attention from the enterprise leadership. Enterprises pursue overall benefits, often ignoring individual career development plans. Today is an era of rapid economic development and constantly updated knowledge. Compared to the past, the demands and weights of young employees for themselves have obviously changed, and employees increasingly attach importance to personal growth.

### 3. Case Analysis

Take H Water Conservancy Engineering Company as an example. As a typical state-owned enterprise subordinate to a traditional public institution, the company's material incentives have a certain reference value. There are mainly three parts to its allowance: The first part is the length of service allowance closely related to the length of work. The second part is the post allowance set up according to the nature of different posts. The third part is health benefits. Employees aged 26 to 32 account for half of the entire company, and the age group aged 33 to 39 is the second largest group within the company. Based on the particularity of engineering projects and the basic requirements of service groups, the most important thing for enterprises in recruiting is whether they have a certain amount of engineering project experience and a depth of professional qualifications. At the same time, as information technology becomes more and more closely linked to the company's projects, the company will also recruit many employees with good modern education. More than 60% of employees have a bachelor's degree or above, but less than 7% have a master's degree or above. The existing highly educated talents cannot match the development path of H Water Conservancy Engineering Company in introducing technology into water conservancy projects in the next step. In addition, H Water Conservancy Engineering Company has not established a dedicated personnel management department. Currently, the relevant affairs of personnel management are handled by office staff. The company lacks a deeper understanding of modern human resource management and insufficient strategic attention.

#### 3.1. Incomplete Salary and Welfare System

First, low satisfaction with compensation and benefits. One common characteristic of the current income levels of most state-owned enterprises is that the income gap cannot be widened. The idea of equal pay for equal work has become deeply ingrained among employees. People often refer to state-owned enterprises as iron rice bowls precisely because, in people's minds, the salary system of state-owned enterprises is still very fixed compared to private enterprises. Employees who do less work naturally become less willing to do more. As a result, the shortcomings of the company's existing compensation system have been revealed. In addition, in performance appraisal, the emotional factors and preferences of leaders often affect the results of performance appraisal, and employees will naturally feel more or less unfair psychologically. This also leads to a lack of sufficient motivation and execution power for employees when working and a lack of corporate cohesion and centripetal force.

Second, there is a lack of medium and long-term compensation incentive mechanisms. The problem faced by state-owned enterprises is that under the current salary system, even if employees have made significant breakthroughs in their professional skills, they still receive their previous fixed income. It is difficult to maintain long-term effectiveness solely based on their personal sense of professional honor.

#### 3.2. Performance Appraisal System Does Not Match

A major problem in the current incentive mechanism of enterprises is the mismatch of performance appraisal systems. The main performance lies in the specific assessment and scoring criteria, and there is no detailed public regulation. Secondly, performance appraisal cannot be implemented in place, and the results of performance appraisal may very likely be reversed or changed due to leadership preferences.

- First, the current performance appraisal system does not have clear standards, and the implementation process is simplified and arbitrary. The leadership did not attach importance to the usefulness of performance appraisal, nor did it correct or supplement performance appraisal methods. The assessment criteria are not scientifically formulated, and there is no unified basis for scoring. Often, subjective scoring is based on people's likes and dislikes and close relationships, resulting in a loss of fairness in the assessment.
- Secondly, the results of performance appraisal are not really utilized. Without clear standards and strict implementation, the results of performance appraisal are actually nothing more than a piece of waste paper. The leadership often conducts a final review of outstanding employees to be commended at the end. Whether employees can be rated as advanced depends largely on the likes and dislikes of the leadership. The results of performance appraisal are linked to the bonus of employees. Whether the appraisal is excellent or not can not bring more realistic economic benefits to employees, and the performance appraisal does not play the due practical incentive role.

#### 4. Plan for Employee Incentive Mechanism in State-owned Enterprises

##### 4.1. Clarify the Goal of Optimizing the Employee Incentive Mechanism

- First, improve the personal abilities of employees. Implementing a comprehensive employee incentive mechanism scheme can make employees pay more attention to efficiency while working and can also provide employees with more fresh ideas to complete their work, improve their ability to solve problems and face work pressure, and weaken the slowdown mood that occurs during work. Before implementing the plan, it is necessary to have a comprehensive and in-depth understanding of the diverse and personalized needs of employees, cultivate a sufficient and appropriate sense of ownership among employees, and strengthen their sense of identity with the company from a psychological perspective.
- Second, reduce the rate of brain drain. For enterprises, the current core competitiveness is talent. When the established conditions given by enterprises cannot meet the needs of employees, it will affect their work efficiency and generate some relatively unstable factors. Any enterprise does not want its outstanding employees to be poached by other managers, especially in H Water Conservancy Engineering Company, which has high requirements for experience and technology. An excellent employee can even contract a water conservancy project independently, which has fully alleviated both the labor cost and the time cost.
- Third, enhance the competitiveness of enterprises. Management can meet the survival needs of enterprise employees in terms of material incentives, and then by creating a comfortable external environment; it can meet the spiritual needs of enterprise employees for self-development and feeling harvest to a certain extent, achieving the goal of boosting enterprise development. Through the specific implementation and strict implementation of the optimized incentive mechanism scheme, the company can effectively improve the management level of employees, develop their working abilities to the maximum effect and level, and reduce the existing human resource costs of the enterprise as much as possible, thereby increasing the income of the enterprise.
- Fourth, form an employee structure optimization mechanism. The employee incentive mechanism of an enterprise should be dynamic. After establishing an incentive mechanism, the entry and exit of employees should not affect the development process of the entire enterprise. Establishing a comprehensive and organic incentive mechanism can promote enterprises to continuously obtain new momentum for development. The development of an enterprise can only be more stable after forming a dynamic and healthy long-term mechanism.

##### 4.2. Optimization Scheme Design of Employee Incentive Mechanism

###### 4.2.1. Improve the Salary System

According to the core concept of the 'Porter-Lawler incentive model' recognized in the industry, it can be concluded that when the implementation of the compensation system results in employees' hard work returns greater than expected; it increases employee satisfaction, that is, incentives are effective, and vice versa. In other words, when the relationship between employees' perceived motivation and their labor outcomes becomes increasingly close, motivation is effective, and without it, it is ineffective.

- First, advantages in the same industry – Enterprises should not only focus on their own salary levels but also compare them with other similar enterprises in the industry. When the salary level of H Water Conservancy Engineering Company is somewhat competitive and attractive compared to other enterprises in the same industry, employee mobility will decrease, and it will also have an advantage in introducing excellent talents.
- Second, targeted advantages – The purpose of setting up post-efficiency wages is to establish wage standards based on the environment, time, and intensity. When designing post-efficiency wages, it is necessary to separate the wages of employees with different office properties to ensure a balance between post-efficiency wages and work intensity for enterprise employees.
- Third, differentiated incentives – Enterprises should pay attention to differentiated incentive methods that can produce better chemical reactions for employees. Knowledge-based employees can appropriately increase their relevant profit-sharing projects, and employees with outstanding contributions or outstanding performance can be appropriately rewarded to fully enhance their sense of satisfaction and self-confidence. For ordinary employees, rewards and verbal recognition can be given in a timely manner based on their work performance and daily performance. The compensation system of a company should be flexibly adjusted in accordance with the changes in employees' own needs and incentive effects.

###### 4.2.2. Optimize Performance Appraisal Mode

- First, the purpose and scope of application of the scheme design – The plan is formulated in accordance with the company's management system and various rules and regulations and is applicable to the staff and administrative personnel of all projects under construction affiliated with the company. Apply the concept of fair competition throughout the construction of employee incentive mechanisms in enterprises. On the one hand, it can enhance the enthusiasm of employees in completing assigned tasks, and on the other hand, it can quickly highlight truly outstanding employees.

- Second, the assessment and implementation of the plan – Enterprises can establish special performance appraisal teams. The performance evaluation team regularly conducts internal reviews within the company, mainly reviewing violations of mandatory standards, problems found during document review and at the project site can have a negative impact on the implementation of the project, serious dereliction of duty or non-compliance with party rules and regulations, the implementation and rectification of problems are not in place, etc. The internal audit is included in the annual performance appraisal of personnel.
- Third, optimize the enterprise performance appraisal process – Enterprise performance appraisal should follow the principles of compliance and norms to ensure that the appraisal process is strictly implemented without any errors or omissions. Performance appraisal should be completed in a centralized time. The performance evaluation team should score fairly and impartially and strictly follow the performance evaluation criteria. The inspection results of the daily work of the company's employees should be issued on the spot, without mixing personal emotions and accepting human relations. For problems in the evaluation, the employees and their departments should come up with rectification plans within a specified time limit and complete them within the specified deadline. The problems and subsequent plans should be reviewed again on the specified deadline.

#### 4.3. Establish a Flexible Welfare System

Different employees have different definitions of rewards. When formulating welfare policies, enterprises should consider employees' opinions from multiple perspectives. The most common benefits in current society include festival flowers or rice flour oil. Companies can widely solicit employees' ideas and establish specific benefits for individuals. For young employees who like novelty, sports equipment can be prepared, and for employees who travel remotely to work, taxi tickets can be provided. Various welfare methods can be adopted to enable each employee to perceive the humanization and caring degree of the enterprise from the heart. You can also broaden your horizons and follow the current trend to continuously improve the welfare system.

### 5. Conclusion

The transformation of new and old kinetic energy is the trend of the times. Only by following the trend and innovating through industrial upgrading and product reengineering can enterprises stand firm in the trend of the times. The incentive mechanism for employees in enterprises should be tailored to the times, scientific and reasonable, people-oriented, and continuously optimized with the current environment. Compensation and welfare should have a certain degree of competitiveness in the industry, adopting differentiated incentive methods to:

- Motivate employees to continuously improve work quality and enhance work efficiency,
- Establish a performance appraisal system for all employees; it is necessary to truly apply the performance appraisal results to the daily work of employees, guide ordinary employees with knowledge-based employees, and help each employee fully improve their comprehensive professional quality as much as possible,
- Establish a flexible welfare system and continuously adjust and promote it. In such a competitive market, only by implementing employee incentive mechanisms can enterprises cultivate excellent talent teams for their own use and ensure the healthy and stable development of enterprises

With the progress of the times, material incentives are no longer sufficient to fully promote employee motivation. Only by integrating existing theories and combining the actual situation of the enterprise can we establish a more applicable and effective employee incentive mechanism that can play a more significant role.

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