

Research on Mid- and Long-Term Incentive Design Path of Conventional Science and Technology Enterprises

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ABSTRACT

Mid- and long-term incentives are an important means for scientific and technological enterprises to stimulate the vitality of scientific researchers and promote scientific research innovation. This article summarizes and refines the characteristics, advantages and disadvantages of different incentive methods through comparison and analysis of various medium and long-term incentive methods. It provides an effective reference and reference for science and technology enterprises to choose an incentive method suitable for the development of the company and the needs of employees.

Keywords: *Mid- and Long-term Incentive, Science and Technology Enterprises, Incentive*

1. INTRODUCTION

Medium and long-term incentive refers to the fact that the owner of an enterprise connects the interests of employees with the long-term (generally 3-5 years) development of the enterprise in order to stimulate the joint efforts of managers and employees. Incentives that reward employees for their performance and contributions over a longer period can generally be divided into cash-based incentives and equity-based incentives.[1]

In comparison, cash-based incentives pay more attention to the shared benefits of employees and enterprises, the incentives obtained are more explicit, and the incentive objects can feel the effects of incentives more intuitively. However, due to the relatively short incentive cycle, it is not conducive to the long-term retention of core talents. While equity incentives pay more attention to the coexistence of risks and benefits, employees can also participate in the management of the enterprise while receiving rewards. However, equity incentives are usually only effective if employees have sufficient confidence in the company's development prospects. If the company is in the early stage of entrepreneurship or recession, the incentive target will be weakened by the lack of expectations for the company's future development. Each enterprise should choose an incentive method suitable for the company's requirements based on comprehensive considerations related to policy requirements, company development stage, characteristics of incentive targets, and company

operating conditions. You can choose one of them, or you can choose a combination of multiple incentives to provide employees with multi-directional, three-dimensional incentives.

2. MID- AND LONG-TERM INCENTIVE METHODS AND CHARACTERISTICS OF STATE- OWNED SCIENCE AND TECHNOLOGY ENTERPRISES

2.1. Mid and long-term incentive methods and characteristics of state-owned science and technology enterprises

The mid- and long-term incentive methods commonly used by state-owned technology companies include project profit dividends, job dividends, equity sales, equity awards, equity options, virtual equity, excess profit sharing, and project follow-up investment. Various incentive methods have differences in implementation difficulty, main incentive objects, incentive effects, etc., and the incentive effects and objectives that can be achieved also vary. Each enterprise should select the appropriate incentive method according to the actual situation of its own development, combined with the incentive object and incentive purpose.

The advantage of **project profit dividends** lies in the precise incentive objects, which can effectively

improve the enthusiasm and creativity of project team members. The disadvantage is that the coverage is small, the number of personnel involved is small, and it is easy to cause internal imbalances. The independent accounting of the project is more difficult, especially when it involves the calculation of the preliminary R & D investment.

The advantage of **job dividends** lies in the overall development of the enterprise as the goal, the incentive object and the distribution method are linked to the post, which is conducive to encouraging collective collaboration and inspiring employees to share their vision and goals. The disadvantage is that improper operation can easily become an additional performance bonus or year-end bonus, weaken the role of promoting technological innovation, and the phenomenon of "big pot rice" appears.

The advantage of the **sale of equity** is that the company does not need to pay the incentive cost, which is the lowest cost benefit bundling and incentive measure. The disadvantage is that there is no performance constraint, which is not conducive to the retention of the incentive object, and the incentive object pays a higher cost in advance, bears a greater risk, and is not easy to be accepted by the incentive object.

The advantage of **equity rewards** is that they need to incentivize the target to pay a certain cost in advance, and can only be realized after the conditions are met. Sharing the benefits with the enterprise while sharing risks is conducive to inspiring the initiative of employees. The disadvantage is that it must be combined with the sale of equity, the incentive object needs to pay in advance, and the realization period is longer, which may affect the incentive effect.

The advantage of **equity options** is that after the exercise period expires, the motivated object can freely choose whether to exercise its rights, that is, it can choose to exercise its rights when the stock price rises, and give up exercising its rights when the stock price falls without any loss. The disadvantage is that the incentives are insufficiently constrained and it is difficult to motivate employees.

The advantage of **virtual equity** lies in its flexible operation and wide scope of application, which does not affect the shareholders' actual control of the enterprise. The disadvantage is that it requires companies to have more cash flow.

The advantage of **project follow-up investment** is that the incentive target is a team member closely related to the project, which is highly targeted, and the incentive target needs to pay the cost, which is conducive to stimulating the enthusiasm of employees. The disadvantage is that the operation is more complicated, the requirements for the follow-up investment project itself are relatively high, and the initial investment is relatively large, the incentive object needs to bear a higher risk.

The advantage of **excess profit sharing** lies in the simple operation. The bonus pool can be flexibly

adjusted according to the actual income of the enterprise, which is conducive to inspiring the potential of employees to create residual value. The disadvantage is that the amount of rewards received by the incentive target is difficult to predict, which is not conducive to mobilizing the enthusiasm of employees.

2.2. Mid and long-term incentive model selection model for state-owned science and technology enterprises

When choosing medium- and long-term incentive methods, state-owned technology-based enterprises need to comprehensively consider factors such as policy requirements, the transformation stage of scientific and technological achievements, and the business development of the enterprise, and choose an incentive method that suits the actual situation of the enterprise and can meet the needs and objectives of the incentive.

2.2.1. Clear Policy Boundary

When choosing medium- and long-term incentive methods, state-owned technology-based enterprises should first consider the requirements of relevant policies on applicable enterprise conditions. First, within the scope of the policy, delineate the incentive methods that their enterprises can adopt.

The main policy basis for state-owned science and technology enterprises to carry out mid- and long-term incentives includes the "Law of the People's Republic of China on Promoting the Transformation of Scientific and Technological Achievements", "Interim Measures for the State-owned Technology Enterprises' Equity and Dividend Incentives", "Notice on Doing a Good Job in Equity and Dividend Incentives for Central Science and Technology Enterprises", "Guidelines for the implementation of dividend incentives for central science and technology enterprises", "Notice on the expansion of the scope of implementation of the interim measures for the shareholding of state-owned science and technology enterprises and incentives for dividends", "Double Hundred Enterprises implements the tenure of management members and contractual management operations Guidelines", "Guidelines for the Operation of Central Enterprise Mixed Ownership Reform", etc.

At present, the relevant policies have mainly made strict conditions for the technology companies to carry out equity and dividend incentives. Regarding other medium and long-term incentive methods, the relevant policies only involve encouraging clauses for "Double Hundred Enterprises" and mixed ownership enterprises, and do not make explicit restrictions on the scope and conditions of applicable enterprises.

Therefore, the state-owned technology-based enterprises that carry out equity and dividend incentives should first meet the requirements of relevant policies in terms of enterprise type, R & D expenses and R & D personnel, etc. Then, according to the conditions such as the establishment period, the scale of the enterprise, the profit situation, etc., the scope of the optional incentive methods should be specified.

2.2.2. Clarify the Transformation Stage of Scientific and Technological Achievements

The transformation process of scientific and technological achievements is generally divided into three stages: scientific and technological achievements production test (pilot test), industrialization of scientific and technological achievements and capitalization of scientific and technological achievements. Each of these three phases has its own characteristics. The incentive purpose of the enterprise and the needs of the incentive objects have its own emphasis, and the applicable incentive methods are naturally different. The production test stage of scientific and technological achievements refers to the experimental stage before the scientific and technological achievements are officially put into production, and is the experimental stage of scientific and technological achievements before mass production.

After the completion of the pilot test, the scientific and technological achievements can be put on the market and enter the stage of industrialization. In the pilot stage, science and technology projects generally face greater risks. From the point of view of project revenue, the pilot test cannot directly create profits through the conversion of results. Its main value lies in paving the way for the future commercialization and industrialization of results. From the perspective of project investment, companies generally require higher human, material, and financial inputs at this stage, but the experimental results have greater uncertainty.

Therefore, in the pilot stage of scientific and technological achievements, the main incentive purpose of an enterprise is to stimulate the creativity of scientific researchers and accelerate the successful transformation of scientific and technological achievements, and at the same time share the risks. And because the return of scientific and technological achievements at this stage still has great uncertainty, and the future prospects of the enterprise are still uncertain, it is more suitable to adopt an incentive method with a relatively short incentive redemption period. To sum up, in the pilot stage of scientific and technological achievements, enterprises are more suitable to carry out mid- and long-term incentives through project follow-up investment.

The industrialization stage of scientific and technological achievements refers to the process of transforming scientific and technological achievements into new products, new processes, new materials and new services, reaching a certain market scale, and gradually forming an industry. At this stage, scientific and technological achievements are converted into commodities and put into the market, and can achieve economic benefits and profits. The transformation of scientific and technological achievements has entered a relatively stable period of income. The motivation of an enterprise is to accelerate the process of industrialization by sharing the benefits with employees, and to improve the benefits of industrialization through continuous innovation and improvement of scientific and technological achievements. Therefore, we should pay more attention to let employees feel the dividend of promoting the industrialization of scientific and technological achievements. In summary, in the stage of industrialization of scientific and technological achievements, enterprises are more suitable to adopt cash-based incentives such as job dividends, project revenue dividends, and excess profit sharing.

The stage of capitalization of scientific and technological achievements refers to the process in which the owner of scientific and technological achievements invests the achievements as capital in an enterprise, co-operates with other capital of the enterprise, shares profits and shares risks, and forms a new economic entity.

At this stage, the commercial attribute of scientific and technological achievements has gradually been transformed into a capital attribute with knowledge and technology as the core. Enterprises and employees have formed a partnership of benefit sharing, risk sharing, and mutual benefit. Enterprises have paid more attention to the accumulation and value-added of knowledge capital, emphasized the reflection of the intrinsic value of incentive objects, and tapped the potential of employees in a long time. At the same time, the development of the enterprise has entered a stable period, the development prospects are relatively clear, the long-term expected returns are easy to calculate and judge, and employees will be more willing to accept the incentive method with a longer return period. In summary, in the stage of capitalization of scientific and technological achievements, enterprises are more suitable to adopt equity incentives such as equity sales, equity incentives, equity options, and project follow-up investment.

2.2.3. Clarify the Company's Business Operations

From the perspective of obtaining a profit target, the medium- and long-term incentive methods of state-owned technology-based enterprises can be divided

into two types: incentives based on the benefits of science and technology projects and overall incentives for enterprises. Among them, the incentive method based on the benefits of science and technology projects focuses on the benefits achieved by the transformation of results of a particular project or projects.

This requires that the project should be a technology conversion project that can be independently accounted for, and should be a research and development project led by the enterprise and invested in capital, rather than a "order project" derived from the customer. The incentive method based on the company's overall income takes the company's overall operating development as the basis for income distribution. Pay more attention to the sharing of overall development achievements between enterprises and employees, and the requirements for

3. CONCLUSION

The mid- and long-term incentive methods of science and technology enterprises are very rich, but each method has different characteristics, and the incentive focus, incentive direction, and incentive effect are also different. The policy environment and stages of various enterprises are different, so their development requirements, incentive targets, and employee needs are also different. When choosing mid- and long-term incentive methods, enterprises should make comprehensive considerations and make choices based on policy constraints, enterprise development goals, business conditions, and incentive priorities. In the process of implementing incentives, it is necessary to adjust and optimize incentives in a timely manner according to the development and changes of enterprises and personnel to ensure the incentive effect.

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transformation and accounting of scientific and technological projects are not high.

It is not difficult to see from this that companies with different main businesses, sources of income, and development goals should also have different emphasis on the selection of incentive methods, and the appropriate incentive method should be selected according to the actual operation of the enterprise. For example, the clear transformation of scientific and technological achievements of hard science research units is more suitable for incentives based on science and technology projects, while soft science research units are more suitable for incentives based on overall corporate profits. Another example is that the income of scientific research institutes mainly depends on the transformation of R & D achievements, and the source of income of high-tech manufacturing companies is mainly customers' order items, so different incentive methods should be selected. China, 2020, pp. 72-74, DOI : 10.14013/j.cnki.scxdh.2020.02.032

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