

# Research on the Motivation of Knowledge Workers in Agricultural Science and Technology Enterprises

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**Keywords:** Agricultural technology enterprise; knowledge worker; incentive

**Abstract:** The work efficiency of knowledge workers directly determines the depth and breadth of technological innovation of agricultural technology enterprises. This paper takes agricultural science and technology enterprises as the object of investigation, analyzes the problems existing in the incentive mechanism of knowledge workers, and then proposes corresponding improvement strategies in order to encourage knowledge workers to maximize their work efficiency and improve agricultural technology. The ability of enterprises to innovate.

## 1. Introduction

The modernization of agriculture and rural areas is the overall goal of China's implementation of the rural revitalization strategy. In 2017, the contribution rate of China's agricultural science and technology progress reached 57.5%. Agricultural science and technology progress has become the main driving force for promoting agricultural economic growth, but it is still lower than the average level of 70% in developed countries. There is still a big gap compared with the world's agricultural power<sup>[1]</sup>. Accelerating the realization of agricultural and rural modernization must further increase the contribution rate of agricultural science and technology. This requires agricultural science and technology enterprises to give full play to their main role in innovation decision-making, research and development investment, scientific research organization, and transformation of results, so as to drive the overall rise of agricultural science and technology. As the knowledge-based employees who master the intellectual capital of enterprises, the important human resources of agricultural science and technology enterprises, the source of innovation and vitality of agricultural science and technology enterprises, the knowledge structure and the effectiveness of work directly determine the depth and speed of technological innovation of agricultural science and technology enterprises. If the incentives for such employees are not in place, it will lead to brain drain and lack, which will directly affect the innovation ability and development speed of agricultural technology enterprises. How to improve the existing incentive mechanism, attract and retain outstanding talents, give full play to its enthusiasm and creativity, and maintain the creativity and team strength of agricultural science and technology enterprises have strong theoretical and practical significance.

Therefore, this paper investigates the current situation of the incentives of knowledge-based employees in agricultural science and technology enterprises, and finds out the existing problems, and proposes corresponding improvement strategies, in order to encourage knowledge-based employees to maximize their work efficiency and improve the innovation of agricultural science and technology enterprises. The ability to drive the improvement of agricultural science and technology and achieve the overall goal of agricultural and rural modernization.

## 2. Literature review

The concept of knowledge workers was proposed by American management guru Drucker Peter (1959)<sup>[2]</sup>, who believes that knowledge workers are those who master and use symbols and concepts, and use knowledge or information to work. On this basis, Drucker (1999)<sup>[3]</sup> further pointed out that knowledge workers produce not material products, but knowledge and ideas, and they know their work better than anyone else in the organization. Canadian scholar Horibe (1999)<sup>[4]</sup> believes that knowledge workers are those who use their brains more than their hands when creating

wealth.

Although different scholars do not define the definition of knowledge workers, they all believe that knowledge workers have the following three characteristics: first, they have the ability to engage in production, storage, creation, expansion, and application of knowledge; The main task is mental work; the third is to bring knowledge accumulation and value-added to the organization, improve the innovation ability of the organization, and bring high added value to products or services. It can be seen that knowledge workers bring added value to their products through their own creativity, analysis, judgment, synthesis and design. Therefore, companies should give more attention to giving them the opportunity to learn and innovate when they are motivated, and give full play to their initiative in their work.

The two-factor theory proposed by Herzberg and Mausner (1959) <sup>[5]</sup> is considered to be the earliest research on the motivation of knowledge workers. On this basis, Yaim University professor Heimovics and Brown (1976) <sup>[6]</sup> proposed 15 incentives related to the motivation of knowledge workers, including the opportunity to learn knowledge, exert their strengths and have the opportunity to contribute to society. A variety of factors that leverage the talents of knowledge workers. Davenport et al. (1998) <sup>[7]</sup> found through empirical research that the top four factors that motivate knowledge workers are: individual growth (about 34% of total), work autonomy (about 31%), business Achievements (about 28%) and money wealth (about 7%). It can be seen that the incentives for knowledge workers should not be based on monetary stimulus, but should be based on their development achievements and growth.

In summary, the academic community's implications for knowledge workers and the related factors that motivate knowledge workers to improve work efficiency are relatively high. However, most of these studies focus on the importance of influencing factors, and there are relatively few studies on how to improve incentive mechanisms and improve the efficiency of knowledge workers. The special research on agricultural science and technology enterprises is even more minimal. Therefore, this paper is devoted to the investigation of agricultural science and technology enterprises, to study the problems existing in the incentive mechanism of knowledge workers, and to propose corresponding improvement countermeasures, has important theoretical significance.

### **3. Analysis of the problems**

In order to better understand the status quo of knowledge-based employees in agricultural science and technology enterprises, we conducted a questionnaire survey on knowledge-based employees of agricultural science and technology enterprises. A total of 608 questionnaires were distributed, 565 copies were collected, and 29 incomplete invalid questionnaires were excluded. 536 valid questionnaires. Among them, 192 were women, accounting for 35.82%, 344 were males, accounting for 64.18%; undergraduate and below were 17.91%, masters were 72.39%, and doctoral students were 9.7%. Through the analysis of the results of the questionnaire, it is concluded that there are mainly five problems in the knowledge-based employee incentives of agricultural science and technology enterprises.

#### **3.1 Incentive system is insufficient and inadequate implementation**

According to the survey, only 1% of knowledge workers have a good understanding of the company's incentive system, while 80% of people choose not to understand and very ignorant, as shown in Figure 1. For this result, we can understand that the incentive system of the enterprise has not been understood by the employees. Even we can think that some agricultural technology enterprises have no effective incentive system, so that more than 80% of the employees will not understand the incentive system. Because it doesn't exist at all. For some agricultural science and technology enterprises with incentive mechanisms, their implementation of the incentive system is not in place, and they have not been fully rewarded and punished according to the system. They have not exerted good incentive effects, otherwise they will not lead to most employees. Do not understand the incentive system of the company itself. The propaganda system of the enterprise incentive system is not enough, and the implementation is not in place. It also causes the

knowledge-based employees to pay no attention to the incentive system of the enterprise, so that the incentive effect of the enterprise on the employees is not good, and the satisfaction of the employees on the enterprise incentive system is low. Through the analysis of the results of the questionnaire, we can find that only 3% of knowledge workers have achieved satisfactory standards for the company's incentive system, while 44% of employees are dissatisfied or very dissatisfied, as shown in Figure 2.

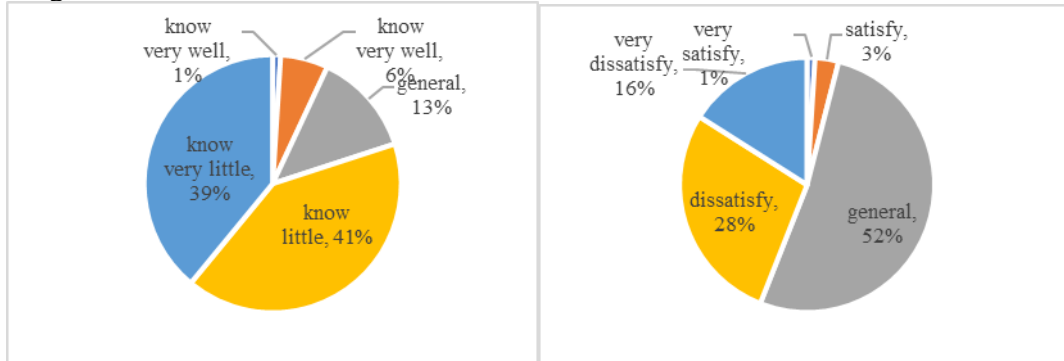


Figure 1 know degree of incentive system

Figure 2 incentive system satisfaction

At the same time, when asked “what kind of incentives do you want the company to focus on?”, 65% of the respondents answered “the combination of material incentives and spiritual incentives”, and only 21% of respondents believe that material incentives are more important. 14% of respondents believe that spiritual motivation is more important. It can be seen that in addition to paying attention to the general income of rewards, knowledge workers also need their own value to be recognized by the company and society. Therefore, when designing the incentive system for knowledge-based employee incentives, agricultural science and technology enterprises must consider their spiritual requirements, communicate with them, and pay attention to the spiritual incentives of knowledge-based employees, so as to better motivate them to love their own work. To improve their work efficiency.

### 3.2 The salary system is not perfect and cannot reflect the performance of employees

The survey found that the knowledge workers of most agricultural technology companies believe that they receive lower salaries than their own work, resulting in low employee satisfaction, as shown in Table 1. Only 4% chose to be very satisfied, and 55% of the respondents chose dissatisfied or very dissatisfied. 25% of the respondents were very dissatisfied with the company's salary and felt that they should get higher remuneration. At the same time, the survey also found that only 24% of the staff said that their salary can reflect their ability to work performance, while other respondents held a negative and neutral view. It can be seen that the compensation system of most agricultural science and technology enterprises has problems such as low salary and unsatisfactory salary, which seriously affects the salary satisfaction of employees, thus reducing the enthusiasm of knowledge workers. Enthusiasm affects the efficiency of its work.

Table 1 Salary satisfaction

items	Percent
Very satisfy,overpay	4%
Satisfy,the pay is commensurate with workload	10%
General,just so so	31%
Dissatisfy,the pay is not commensurate with the workload	30%
Very dissatisfy,more should be paid	25%

### 3.3 Career planning is not clear and cannot meet the needs of employees

For knowledge workers, they have a clearer understanding of their abilities, and they are more likely to be recognized by enterprises and society. Personal development opportunities and future

issues have become an important issue that they are very concerned about. Therefore, they are interested in their own professions. Careful planning is very important. According to the survey, nearly 80% of knowledge workers indicated that they need career planning, as shown in Figure 3. Combined with the results of the previous incentive system, 65% of knowledge workers need both material and spiritual incentives. Career planning is an important part of spiritual motivation and plays an irreplaceable role in stimulating employees' work efficiency.

However, more than half (52%) of agricultural technology companies do not have career planning for their employees, as shown in Figure 4. It can be seen that the existing agricultural science and technology enterprises often only pay attention to some immediate incentives, and pay little attention to the personal growth of knowledge workers. The long-term human management measures for career design have not paid enough attention to the knowledge type. The lack of effective career design for employees will lead to knowledge workers' unclear understanding of the future and lack of sense of belonging, which seriously affects their work efficiency.

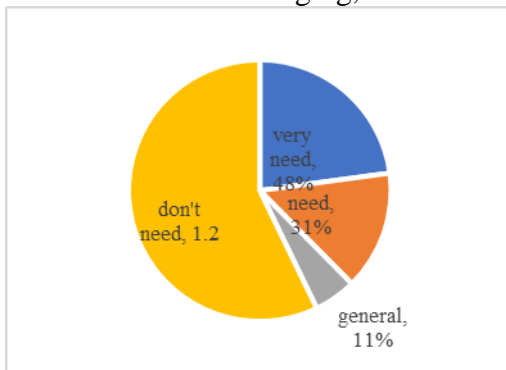


Figure 3 Whether career planning is needed

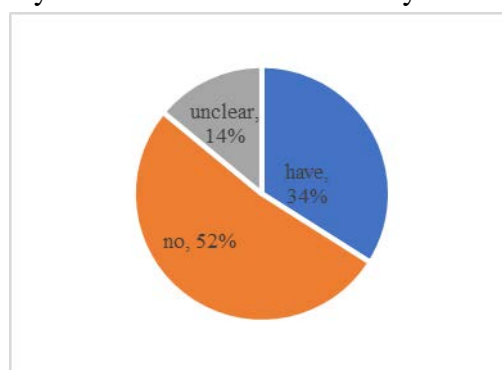


Figure 4 Whether there is career management

### 3.4 Promotion channels are few and unfair

According to the above-mentioned knowledge workers who are more concerned about whether their value can be recognized, whether the company can provide clear career planning, whether it can get fast and fair promotion is also an important aspect that affects the efficiency of knowledge workers. However, the survey found that most of the knowledge-based employees of agricultural technology companies lack fair promotion channels, and the promotion needs are not met for a long time. At the same time, more than half of the respondents believe that “the company’s promotion channel is unfair”, and only a very small number of respondents believe that “the company’s promotion channel is very fair”, as shown in Table 2. In the interview process with the respondents, it has been found that most agricultural science and technology enterprises have a relationship of relationship and humanity in the process of assessing the promotion of knowledge workers, which leads to employees' doubts about the fairness of corporate promotion and reduces knowledge. The sense of accomplishment of the employees has seriously affected their enthusiasm for work.

Table 2 Fairness of promotion channels

items	Percent
Very fair	4%
fair	12%
General	30%
unfair	51%
Very unfair	3%

### 3.5 Corporate culture is lack and reducing employee's sense of belonging

Corporate culture is the spiritual wealth and material form created by the company's production, management and management activities. Corporate culture is the soul of the enterprise and an inexhaustible driving force for the development of the enterprise. It contains a very rich content, the core of which is the spirit and values of the company. The values here do not refer to the various

cultural phenomena in business management, but the values that employees in enterprises or enterprises hold in their business activities. A good corporate culture can motivate employees' sense of mission, belonging, responsibility, honor and sense of accomplishment. However, through investigation, it was found that 67% of the surveys selected "the corporate culture of the company does not conform to the development characteristics of the company". It can be seen that most agricultural science and technology enterprises do not have their own corporate culture, and even if they do, they only stay in the corporate culture. The lack of core values leads to a lack of employee mission, belonging, responsibility, honor and sense of accomplishment.

## **4. Suggestions**

### **4.1 Improve the incentive system**

Because more research needs to be done in the field of agricultural technology, it is necessary to go to the fields, often to suffer from wind and rain, and to sleep in the wind. Compared with the knowledge workers working in the office and laboratory, the knowledge workers of agricultural technology enterprises work harder. The results cycle is longer and knowledge innovation is more difficult. For the characteristics of knowledge workers, agricultural science and technology enterprises should establish a sound incentive system. The incentive system should include both material incentives and spiritual incentives. It can even emulate the practices of Fortune 500 companies, provide some benefits to family members of knowledge workers, and increase humane care for knowledge workers. For example, provide a certain amount of scholarships to employees' children, set up scholarships, etc.; provide free comprehensive medical examinations for their parents; organize family activities on a regular basis. Such an initiative makes the company look full of humanity, not only to stabilize the minds of knowledge workers, to enable them to be loyal to the company, but also to enrich employees' spare time.

At the same time, create a learning team and increase incentives for the team. With the advancement and development of science and technology, if we can't maintain a sustained and progressive mind, we will not be able to learn for life and will soon be eliminated by society. Agricultural science and technology enterprises can organize various professional and technical training courses to create a good learning atmosphere, or by setting up a study group, select a team leader to lead and supervise the team members to learn, and increase the opportunities for everyone to learn and communicate, so that not only can Employees staying alive, enhancing their sense of teamwork, can also greatly improve the overall atmosphere of the company. When employees establish their own circles within the company, the status of employees will become more stable, and the chances of job-hopping will be greatly reduced, creating greater value for the company.

### **4.2 Perfect the salary system**

In order to stimulate the enthusiasm and work efficiency of knowledge workers, agricultural science and technology enterprises should conduct research on the salary levels of other local technology companies, considering factors such as enterprise cost, productivity level and competitiveness, on the premise of fairness and fairness. Improve the basic remuneration package for knowledge workers, especially for R&D and technical employees in basic positions. It is necessary to increase their income based on the average local per capita income and increase their income with other general employees of the company. Gaps, improve the enthusiasm of knowledge workers. At the same time, establish a salary system based on employee qualifications, abilities, performance, and relevant work experience, improve the scientific nature of compensation, and improve the salary satisfaction of knowledge workers. For a strong joint-stock type of agricultural technology enterprise, an employee stock ownership plan can be adopted to motivate knowledge-based employees, and equity incentives can be implemented as an important part of economic incentives, so that employees' compensation is linked with the interests of enterprises, so that employees Gaining the honor and benefits brought by the growth of the company, enhancing the sense of corporate honor and mission, can maximize their motivation and motivate employees.

### **4.3 Clear career planning**

According to the results this survey, the knowledge workers of agricultural science and technology enterprises pay attention to the development of individuals while paying attention to compensation and benefits. The planning and management of the career of knowledge workers is actually a process of continuous coordination and unification of the company's development and personal development. If you can't carry out scientific career planning for knowledge workers, it will lead employees to think that the company is not paying enough attention to themselves, thus generating negative emotions and even seeking other highs. Therefore, agricultural science and technology enterprises should start from understanding the true will of knowledge workers, help them to do their career planning, fully give them the opportunity to challenge, give them a platform to show their self, and create space for them to the greatest extent possible. At the same time, we will increase the propaganda of career planning, help employees to conduct career analysis, enhance employees' awareness of their career planning, change employees' incorrect career concepts, and let those employees who are still in the stage of confusion slowly explore. Only when employees can clearly see their development direction in the enterprise would improve their loyalty to the company and enable them to make every effort to contribute to the company.

Through the career management of employees, the company sets career development goals for employees, let employees understand the development of Tianjin's foreign trade, the state's support policies for the foreign trade industry, as well as the company's development goals and status, enhance employees' confidence in the foreign trade industry, and let employees Knowing that you are promising in the development of the company, enhancing employees feel a sense of belonging, so that the personal goals of the employees are progressed step by step and smoothly, consistent with the strategic development goals of the company, and achieve a win-win situation for both employees and enterprises.

### **4.4 Widen Promotion Channels**

The knowledge workers of general technology enterprises often only have job title promotion opportunities and lack of job promotion opportunities. This is also the case in agricultural technology enterprises, and the proportion of senior titles assigned to agricultural technology enterprises themselves is relatively small, resulting in such categories. The promotion of the title of knowledge workers in the enterprise has also become more difficult. This brings great frustration to knowledge workers and seriously affects their work efficiency. Therefore, agricultural science and technology enterprises should set clear promotion standards for knowledge workers, ensure employees have the opportunity of fair and just competition, and in the process of promotion and selection, the information is open and transparent, accept the supervision of employees, and abandon the enterprise of "respective relatives". Management concept, adhere to the "capable person, mediocrity", the results of promotion and selection should be convinced by employees, enhance the participation of employees, meet the staff's promotion requirements to a certain extent, and ensure that employees' personal qualities and work ability can reach certain standards. He should have a promotion. At the same time, it is necessary to ensure that the career path of employees can be more and more wide, providing parallel conversion opportunities for technical posts to management posts, and at the same time establishing a one-to-one correspondence mechanism for positions, ranks, salaries, and rights, with equal emphasis on the two positions. The role of career development. Of course, agricultural technology companies can also help employees find suitable development paths based on the characteristics and character of knowledge workers, and combine their own choices to achieve their own value while giving them a sense of accomplishment, thus motivating employees to work hard. Better use their knowledge.

### **4.5 Build corporate culture**

The construction of corporate culture is not done overnight. Therefore, agricultural science and technology enterprises must create a corporate culture that conforms to the characteristics of the company in the process of business management activities and enhance the sense of identity of

employees. First of all, according to the industry characteristics of agricultural science and technology enterprises and the internal characteristics of the enterprise, establish a long-term corporate culture development strategy to enhance the sense of identity of employees; secondly, adopt flexible and diverse ways, such as using various network channels to enhance the promotion of corporate culture and Implementation, form a unique characteristic culture belonging to the enterprise; finally, without rules and regulations, formulate a standardized corporate culture system, ensure the smooth implementation of corporate culture construction, and let employees feel that the development of the enterprise is closely related to the personal interests. Enhance employees' sense of belonging to the company, have full confidence in the development prospects of the company, and maximize the enthusiasm and creativity of knowledge workers.

## 5. Conclusion

The talent problem is the bottleneck that restricts the long-term development of the company. If the company lacks execution, the employee incentives are not implemented, the incentives are not strong, and the employees can't afford any effect, which leads to the loss and lack of talents. Therefore, the success of a company depends largely on the human capital of the company. This paper takes agricultural science and technology enterprises as the investigation object, and finds that the incentives for knowledge workers have problems such as imperfect incentive system, imperfect salary, unclear career planning, less promotion channels, lack of corporate culture, etc. Suggestions for improvement, expect to give full play to the enthusiasm, initiative and creativity of knowledge workers, promote the improvement of innovation ability of agricultural science and technology enterprises, and contribute to the realization of agricultural modernization. Of course, there are still problems in this paper, such as the sample is too small, and the reaction is not good. I hope it can be further improved in future research.

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