

# An Analysis of the Concept and Relationship of Knowledge-Based Skilled and Innovative Workers

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**Abstract:** To achieve a country's sustainable economic development, we must rely on a strong manufacturing industry to support, to achieve the manufacturing power to the manufacturing power, we must build a strong knowledge-based, skilled, innovative workers (talent) army. How to define and define the concepts of knowledge-based, skill-based and innovative workers (talents) and explain the relationship between knowledge-based, skill-based and innovative workers (talents) is particularly important. Through the analysis and demonstration of the evolutionary reasoning method and comprehensive generalization method of practice and theory, the concept of knowledge-based, skill-based and innovative workers (talents) and their connotations and dialectical relationships are drawn. In order to promote the three major industrial workers in the use of knowledge, technical ability, innovation and creativity.

**Keywords:** knowledge-based; skill-based; innovative workers (talent); concept and connotation; dialectical relationship

## 1. Quotations

William Petty (1623-1687), a statistician and founder of classical British political economy, argues that "labour is the father of wealth, and land is the mother of wealth." He was the first person in modern times to put forward the principle of labor-determined value. It is the first time that the relationship between man, labor and economy has been summarized from the economic point of view, thus establishing the value of human labor and the value of use. It is not difficult to see that people not only shape themselves, but also create the world through continuous learning and social practice. The development of social, political, economic, cultural, legal, institutional and other aspects is driven by human labor practice. Man is the most active and leading factor in social productivity, and emancipating and developing social productive forces is the essential requirement for the continuous development of economy and society. To build an army of knowledge-based, skilled and innovative workers, that is, to build knowledge-based or skilled or innovative workers or three-type workers, [1] is the key pusher to realize China's transformation from a manufacturing power to a

manufacturing power, [2] a major measure to accelerate the construction of China's modern power, and an important magic weapon to crack the shortage of skilled workers in China, especially highly skilled personnel.

## 2. The Concept and Connotation of Knowledge-Based, Skill-Based and Innovative Workers

At present, scholars at home and abroad do not do much research on the concept of knowledge-based, skill-based and innovative workers, [3] but the definition of knowledge-based, skill-based and innovative workers has different expressions, from different angles of knowledge-based, skill-based, innovative workers put forward their own views on the connotation of the concept of the definition of inexplicable. However, whether it is knowledge-based workers, skilled workers, innovative workers or three-type composite workers, all belong to the definition of the concept of "talent", so it can be called knowledge-based talent, skilled talent, innovative talent or three-type composite talent.

In this paper, the concepts of knowledge-based workers, skilled workers and innovative workers are expressed by knowledge-based workers (talents), skilled workers (talents), innovative workers (talents), and three-type composite workers (talents).

### 2.1. The Concept and Connotation of Knowledge-Based Workers (Talents)

The concept of "knowledge workers" was first proposed by the master of management, Peter F. Drucker, in his 1959 book *Landmarks of Tomorrow*, which defined the meaning of knowledge workers as "those who master and use symbols and concepts to work with knowledge or information".

Knowledge-based workers (talents) are people who have certain knowledge and have the possibility to use the knowledge they have to provide value-added to their own units or organizations, and the knowledge they have can come from school education, or from the experience summary and personal reflection of their own work, no matter from which side, these knowledge can be well applied to the work needs and development needs of individuals, units or organizations, so as to promote continuous progress in work, and ultimately produce economic or social benefits for the unit or organization, It

may even drive the development and progress of your industry.

The connotation of knowledge-based workers (talents) includes the following three aspects:

Have a high cultural quality [4]. The term "cultural quality" can be achieved by formal school education, or it can be owned by non-formal school, of production and life, but also through the practice of working life, continuous learning and absorption, the formation of self-made cultural knowledge; A higher cultural quality can be understood as someone's professional knowledge through the use of the unit or organization can produce positive and valuable benefits, promote the progress and development of the industry.

Have a strong desire to realize self-worth. Having a high life goal requires self-worth and enjoys challenging work and tasks. The spiritual level of this group of people, such as honor, value, dignity and other requirements are higher.

Strong personality and professional recognition. Independent thinking ability is often strong, usually have their own independent views on things, agree with their own professional and direction, they respect the profession, the pursuit of fairness, have a relatively independent judgment and choice.

## 2.2. The Concept and Connotation of Skilled Workers (Talents)

Skilled workers (talents), usually refers to after special training and training, or after a relatively long period of work and production practice, and constantly sum up the exploration, so as to master a certain degree of professional knowledge and a higher level of operational skills, can be very skilled in solving the work practice of key operating technology and process problems, high-quality and efficient completion of high-tech operation, high labor complexity of production work, thereby significantly shortening production hours, reduce production costs, improve production efficiency, This part of the skilled workers who increase the economic benefits of the enterprise.

It should be emphasized here that skilled workers (talents), not only have skilled operation skills, to be precise, should also have a certain degree of professional knowledge of the work, but these professional knowledge is more in favor of practical knowledge, such as the actual operation process needs to accurately grasp the "force", "degree", "color change" and other very abstract "work connotation", these need a lot of repeated work practice and repeated practice, in order to truly "mind", but also can really master this operational skills. The operation of knowledge-based workers (talents) can find the breakthrough point of work problems from the macro level through the knowledge they have, and find the correct method of production operation, while the operation of skilled workers (talents) must be supported by the technical knowledge they have in the specific production work to complete the production operation. Skilled workers (talents) have the professional knowledge, mostly through repeated practical tests, so more suitable to guide the actual work.

High-skilled personnel belong to the high level of skilled workers (talents), is a follow-up extension of the work of engineering and technical personnel, with general skilled workers (talents) do not have the ability to skill and solve complex problems, key issues and unconventional technical operation problems.

Here is a clear distinction between skilled workers (talents) and engineering talents. In China's manufacturing industry, there are two types of technology, one is the technical workers in the production practice of the operation of the technology, the other is the engineers through formal school education to learn the scientific theoretical knowledge of the formation of engineering technology. If the high-level level of skilled talents and technical talents is referred to collectively as "high-skilled talents", it will lead to the question and confusion of different groups in the selection of educational training mode in the training of talents. In the past, it was generally accepted that engineers were responsible for engineering and technology design and development, technicians were responsible for process and technical specification management, and the concept of skilled workers responsible for production operations and equipment maintenance should change with the development of the times. Among skilled personnel and technical personnel, technical personnel should also learn operational techniques, but mainly to learn theoretical techniques, and skilled personnel should also learn some necessary theoretical techniques, but still mainly to master production and operation techniques.

The connotation of skilled workers (talents):

Here, [5] take high-skilled personnel as an example to illustrate the connotation of skilled workers (talents).

Highly skilled personnel must be highly skilled workers with both professional theoretical knowledge and innovation ability, as well as modern high application technology and skill level and high overall quality.

Highly skilled personnel must be engaged in first-line production with high technical content, high degree of labor complexity, and can independently complete the operation of key or core technical fields, can do accurate judgment, precision skills, not bad, is a stunt, hand-brained, hand-to-hand technicians and senior technicians.

Highly skilled personnel must be creative workers, creating material and spiritual wealth for enterprises, industries and societies, are the backbone and operational skills of their enterprises and industries, and are highly qualified workers with a high degree of technological skills development.

## 2.3. The Concept and Connotation of Innovative Workers (Talents)

The concept of "innovation" was first proposed by the Austrian-American economist Joseph Schumpeter in his doctoral thesis *The Theory of Economic Development* in 1912, focusing on the production and economic fields. It was not until the 1980s, as the western developed countries transitioned from an industrial economy to a knowledge-based economy and society, that a national innovation

system was proposed, and Schumpeter's view was extended from the field of production to society as a whole.

Innovation is the process of introducing, creating, developing, and integrating new things. Talent is often associated with high quality, creativity and outstanding performance. Innovative workers (talents) refer to the innovative consciousness and ability to engage in their own work, willing and good at finding problems and thinking, the actual, with other possible ways, methods and means to improve and solve problems, for the development of their unit or organization to provide new programs, methods, technologies, etc., so as to create new value for the unit or organization. , Innovators generally have a strong desire for knowledge, can constantly ask questions in existing work, and through open-mindedness, open-mindedness to solve problems, so as to raise the original work efficiency or economic benefits to a new level, and some may even create new markets and industries.

The connotations of innovative workers (talents) include:

Problem-oriented knowledge structure, self-traction character, development of profound thinking and research style. [6] The growth factors of innovative workers (talents) include exchanges and cooperation, diverse experiences, influenced by parents from an early age, a wide range of hobbies in admnents, and so on. It is because of this series of experiences that innovators have more perspectives and deeper layers of thinking about the same problem than most people, and it is often possible to break with conventional ideas and put them into practice, making it more likely that new results will be created.

Multidisciplinary cross-cutting and integration capabilities. [7] Under the new era, more and more innovation achievements are based on multidisciplinary cross-cutting and integration, therefore, innovative workers (talents) must be familiar with their own professional related subject knowledge, active practice with the help of multidisciplinary cross-cutting and integration of this kind of consciousness and means, good at capturing and analyzing the possibility and feasibility of improving work efficiency through multidisciplinary cross-cutting, and many times practice, repeated summary and demonstration, it is more likely to create new high-quality results.

### **3. The Relationship between Knowledge-Based, Skill-Based and Innovative Workers (Talents)**

#### **3.1. The Difference between Knowledge-Based, Skill-Based and Innovative Workers (Talents)**

##### *3.1.1. Differences in the nature of type III workers (talents).*

The difference in the nature of the three types of workers (talents) is: knowledge-based workers(talents) to pursue knowledge, individualization, diversification of the ability to have a new knowledge of new technologies to continue to learn and absorb the spirit, and skill-based and innovative workers (talents) have a practical, independent, creative and other characteristics have significant differences. The ability to continuously learn and master

rich knowledge is the key nature of knowledge-based workers (talents). Skilled workers (talents) are the successors to the work of engineering and technical personnel, with the ability to master the technical skills of production position operation, have certain job operation knowledge, and be able to solve the general problems, complex problems, key issues and unconventional problems of first-line production position operation. Innovative workers (talents) are realistic and future-oriented, with five aspects of nature: a broad and professional combination of sufficient knowledge reserves, more developed intelligence and ability characterized by innovation ability, innovative spirit and innovative consciousness as the center of the free development of personality, positive value orientation and noble dedication, strong physique.

##### *3.1.2. Differences in the role of three types of workers (talents).*

The difference in the role of three types of workers (talents) is: skilled workers (talents) in the first line engaged in production, transformation and innovation of technical operators, they have a certain degree of theoretical knowledge and professional and technical operation ability, compared with engineers, pay more attention to practical operation and technical strain, with a good team team and work practice. His role is to rely on technical skills to complete the task of production, realize his life value and social contribution, for Chinese enterprises to make positive contributions to production and construction, economic and cultural construction, ecological civilization construction. Innovative workers (talents) have pioneering and creative ability to create new operating techniques and processes in their posts and make creative contributions to the development of production. The innovation of innovative workers (talents) is the development of existing knowledge, and in today's increasingly rich and profound human knowledge, the role of innovative workers (talents) is to promote modern production technology innovation and production process innovation to a higher level. Knowledge-based workers (talents) have a broad and profound cultural connotation, both deep and solid basic knowledge, understanding of adjacent disciplines and the necessary horizontal discipline knowledge, but also proficient in their own professional and able to master the latest scientific achievements and trends in the profession. The role of knowledge-based workers (talents) is to carry out innovative practice with a broader horizon through the continuous accumulation of knowledge.

##### *3.1.3. Differences in the requirements of three types of workers (talents).*

The differences in requirements of the three types of workers (talents) are: knowledge workers (talents) require a wealth of professional knowledge and skills to influence others with the authority of knowledge and skills; Innovation. In today's rapid renewal of knowledge and technology, knowledge workers (talents) must continue to learn, and use their innovative ability to occupy more

knowledge and skills; Need its active and responsible attitude and professionalism, good psychological adjustment ability, fierce competition to the knowledge-based workers (talents) bring a lot of pressure, knowledge-based workers (talents) must have a good psychological adjustment ability, enhance their "psychological capital", to constantly overcome difficulties and setbacks, to obtain excellent work results. Innovative workers (talents) need to have good teamwork ability, dare to work hard, hard-working spirit, innovative awareness and ability. It is required that innovative workers (talents) should have both breadth and depth of knowledge structure, just like knowledge workers (talents). The greater the amount of information you have, the higher your cultural literacy, and the more open your ideas become. At the same time, a complete knowledge structure gives them an integrated and integrated sense of innovation, which helps to enhance their ability to analyze and solve problems comprehensively when they innovate. Skilled workers (talents) require them to master advanced technology, advanced technology and advanced operating skills, can carry out general technology and high-tech production and process labor, for enterprises to bring high-quality products, create brand effect.

### 3.2. The Connection between Knowledge-Based, Skill-Based and Innovative Workers (Talents)

#### 3.2.1. *The commonality of three types of workers (talents).*

The commonality of three types of workers (talents) lies in the pursuit of excellence. Three-type workers (talent) desire for success, the work of "do a little better" pursuit. From a psychological point of view, I feel that I have the possibility and ability to succeed. In reality, the more people feel they have the ability to achieve excellence, the more effort they will make, and the rewards of their efforts will make them more confident in their abilities. Three types of workers (talents) have a high sense of responsibility. No matter what one does, as long as they insist that this is what they should do, there are ten thousand possible reasons to convince themselves, basically can become experts in the field. What makes a talent persevere and persevere? A high sense of responsibility, responsible for their own, responsible for their work, responsible for the goals, responsible for the unit, responsible for society, responsible for the state. Of course, everyone will be lazy, depressed, frustrated, but as long as the heart of responsibility, will take the initiative to carry the pressure, do the best thing in hand, do the ultimate. Third-type workers (talents) have their own personality and ideas, the observation of things quick thinking. Agile thinking comes from curiosity about the world. Three types of workers (talents) they are generally willing to find people around, things, things, differences, but also a set of their own thinking methods, quickly learn new things. They are good at reflecting on problems, making one example and three others, and asking some cross-border questions. In the eyes of quick-thinking people, the world has infinite possibilities. Innovation and problem solving require this ability to see the world from a multi-perspective perspective. Type 3 workers (talents)

generally have a clear self-awareness, can communicate with clear goals, and they can generally perceive the understanding and ideas of others.

#### 3.2.2. *The uniformity of three types of workers (talents).*

The relationship between the three types of workers (talents) is, in the final analysis, a matter of unity. The unity of the three types of workers (talents) lies in the knowledge and skills, innovation and creativity. We should have a high level of knowledge, a solid theoretical basis, master the latest technology, have the spirit of pioneering and innovative, leading the development of organization and culture, change production and system. The renewal, utilization and value-added of knowledge will ultimately be achieved by the work practice of three types of workers (talents).

#### 3.2.3. *Homogeneity of type III workers (talents).*

The homogeneity of the three types of workers (talents) lies in their temperament, personality, hobbies, expertise, age, experience, and even professional closeness. This is the three types of workers (talent) homogeneity phenomenon, this situation on the one hand is conducive to the internal management and coordination of smooth, easy to timely communication of information and effective implementation of work tasks, save time, high efficiency. But on the other hand, it is not conducive to the long-term development of enterprises, and sometimes even fatal. Using the same criteria to measure three types of workers (talents) will find that homogenization is not necessarily a good thing.

## 4. Conclusion

Knowledge-based, skill-based, innovative workers (talents) or three types of combined workers (talents), they are qualitatively different from ordinary workers, based on knowledge, skills and innovation. China's economic transformation and social development of the three types of workers (talents) of the large demand, will inevitably require workers from "quantitative" to "quality" to adapt to the high-quality development of the economy. To understand and understand the concept and relationship of the three types of workers can we promote the construction of manufacturing power, scientific and technological power and talent power.

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