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Industrial Engineering Technology and Production Management Applications

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Abstract: With the development of engineering technology in China, the concept of industrial engineering has been used very widely. Generally, China's engineering technology starts late and starts high, and people's understanding of it is not enough. However, with the wide application of computer science and technology in recent years, people have gradually improved their understanding of engineering technology. The authors of this paper combined their own industrial engineering technology management and production management to do some analysis, hoping that the analysis of this article can deepen the understanding of engineering technology.

Keywords: Industrial engineering; Production management; The idea of market economy

Industrial engineering management originated in the United States at the beginning of the 20th century, the specific industrial engineering technology designs product manufacturing industrial processes, a specialized division of labor, operation measurement, functional organization, and other content, with the gradual development of market economy, people's ideological understanding gradually improved, the connotation of industrial engineering interpretation is also in rich development.

1. The main object of industrial research

The target of industrial research is the economic system and large-scale industrial economy. To improve the comprehensive efficiency and labor productivity of production in the process of production, industrial engineering technology has been formed in the field of production and manufacturing and management disciplines. Industrial technology engineering has been born for hundreds of years, mainly as an interdisciplinary discipline, focusing on the level of reaction technology and management, with the continuous extension and expansion of its field, engineering technology has shown a multi-disciplinary status quo, mainly reflects the knowledge of physics, mathematics, chemistry, and other social disciplines, in the process of engineering technology production, we apply the principle of engineering design, Analysis, prediction and evaluation of the system results. After scientific analysis and summary, the essential connotation of industrial engineering technology is analyzed. Different times have different definitions, but the essential connotation remains the same. Industrial engineering, as an engineering discipline technology, is used to solve the production management problems of enterprises or other fields. Industrial engineering takes the entire production and operation management system as the research object, not only in the traditional information, energy, materials, and other fields for research. Combined with systematic analysis methods, industrial engineering technology covers many disciplines, integrates social science, mathematics, and other professional content, carries out related knowledge analysis and planning, and adopts more systematic engineering methods and theories. The objective of industrial engineering is analyzed, the main goal is to form a unified and comprehensive system through the integration of materials, personnel, and energy, improve the production management ability, make the production technology more mature, and promote the realization of production goals.

2. Related technologies of industrial engineering

2.1 Content system of industrial engineering

Engineering in the process of industrial production we often use engineering technology, mainly engineering technology can help enterprises correctly deal with the production problems faced, so the link and engineering technology theory and practice can quickly solve the management and production guidance of the problems faced, to carry out production management and guidance. The subject of industrial engineering and technology covers 17 branches such as facility planning, biomechanics, data processing and system design, and practical psychology. With the in-depth development of the social economy, enterprises are facing more and more competitive pressure. Under the current social form, the content system of industrial engineering is also expanding constantly, integrating the content of computer science and technology as well as management. Industrial engineering technology has become a comprehensive discipline integrating modern scientific

knowledge. In the process of development of industrial engineering, the professional scope of funds is also constantly broadened, and the depth is constantly extended. But no matter how it develops, the nature of industrial engineering technology cannot be separated from modern management engineering, human factor and efficiency engineering, industrial system analysis technology, and methods.

2.2 Subjects and related technologies involved in the industrial curriculum

If we step further about engineering technology now, it is necessary to conduct in-depth research on engineering technology. Some universities in China have also set up related disciplines. Generally speaking, industrial engineering courses include introduction to industrial engineering, systems engineering, manufacturing systems, production and operation, modeling and simulation, etc. Some universities mainly set up industrial engineering overview, production planning control, quality control, reliability engineering, etc., and some universities set up industrial engineering courses that have quality management, manufacturing technology, project design, etc. Analyzing the curriculum of some famous colleges and universities in China, the main curriculum includes relevant theoretical research practical proof, and theory and practice. To improve the quality of teaching management from a deeper level. The construction of a discipline always combines multiple disciplines, economics, engineering, management, and industrial engineering technology theory and practice are related, analysis of industrial engineering support technology is divided into analysis and decision technology, reliability engineering, market forecasting, human resource management technology covers, design and improvement category includes work research, organization design. The supporting technology of the control category includes quality control, information control, cost control, and so on. Only by accurately controlling multiple disciplines and analyzing supporting technology can we grasp the connotation of technology from a strategic height and improve the level of technology management and production control.

3. Production management status and improvement measures of a company

3.1 Production management status of an enterprise

As a Japanese enterprise, the enterprise is mainly engaged in auto parts-related work, the enterprise is a large scale, is a large multinational company, and since its establishment, has had more than 10 branches, with more than 80,000 employees, The main business of the company is the development, design and manufacturing of auto parts, and the company has a cooperative relationship with several well-known automobile manufacturers. Because it is a multinational company, the enterprise management and operation ideas are more advanced, pay great attention to the application of engineering technology in the enterprise, actively improve the status quo of engineering management, and combine the benefits of the enterprise and society as well as the benefits of all the employees of the company. At the same time, in the process of management, the enterprise management personnel in the level of industrial engineering technology, pay more attention to the improvement of the site, the enterprise only the site layout promoted to the strategic position of enterprise management, to find the shortcomings in management, and improve the long-term economic benefits brought by the site layout. Managers must go deep into the site, contact with the content of grass-roots work and the purpose of the work, only in this way can understand the production and market, and produce products in line with the market, therefore, whether it is the management of the enterprise or grass-roots staff should meet the management regulations of the enterprise, in the production process can not appear irresponsible for production. The management personnel need to adjust the management of the scene in time and be responsible for the cost and quality of production. However, enterprise in the layout of the workshop, there are still many shortcomings, workbench layout and workers working far from the place, resulting in duplication of labor, in addition to the existence of work efficiency is not high, product backlog problems, urgent need to be improved.

3.2 Layout of industrial facilities

In general, engineering technology must be inseparable from the internal facilities of the enterprise, and the quality of a facility directly determines the level of the entire engineering technology. The initial enterprise construction, the required construction costs, and construction costs are not much different, but different factory facilities' layouts will profoundly affect the benefits of enterprises. To achieve good enterprise facilities, the relevant management personnel of the enterprise should establish a complete management mechanism and strictly implement the management mechanism, adopt advanced management methods to manage the management process and combine the actual layout of the enterprise's facilities, each workshop of the factory of the enterprise produces a product, product production is relatively single, and a single arrangement, The lack of communication and circulation, resulting in low processing efficiency. In good company facilities layout planning, the enterprise needs to seek production balance, in a given cycle time, the enterprise seeks the least amount of work location, similarly, in the workload given time, seeks the least amount of work location, the two seek balance, seek to meet the best work location and cycle time location. For the layout of the entire factory workshop, the layout of workshop needs to be based on the overall workload, in the case of a certain workload, to determine the supply of raw materials and the balance between production, linear flow layout is relatively simple, and high efficiency, enterprises can consider a reasonable layout form, market research, and

site inspection, according to the actual situation of the enterprise, Carry out the facilities and layout of related equipment, and improve the attention to industrial engineering technology.

4. Conclusion

With the continuous development of the economy, brought by the revolution of engineering technology, China has gained a place in the field of engineering technology, although the overall trend of development is good, enterprises need to constantly improve the ability of technical management, in the management process should implement the management mechanism, and constantly improve the level of management, to improve the efficiency of enterprises.

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