

Research on Labor Cost Control in Shipbuilding Process

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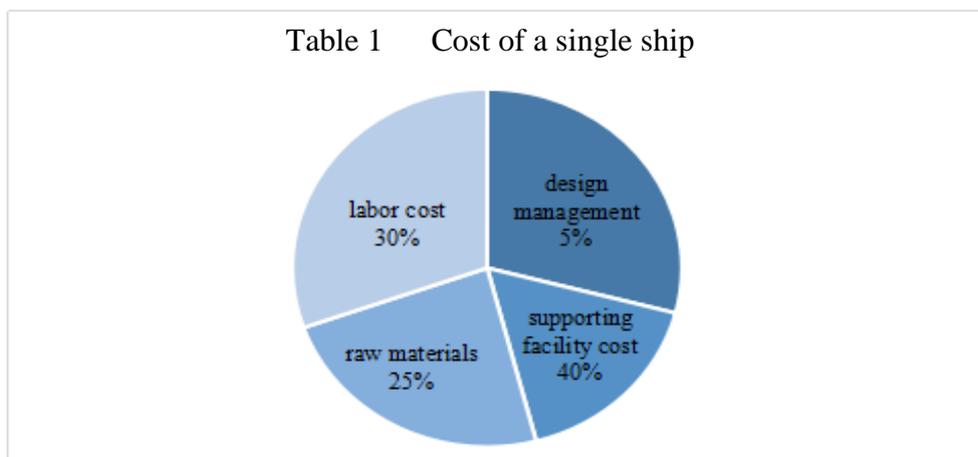
Abstract. Firstly, it analyzes the severe current situation of the shipbuilding industry, and then discusses the importance of labor cost control for the subsequent development of the shipbuilding industry, and elaborates the meaning of the labor cost. Then it lists the problems of the labor cost control in the shipbuilding process. Finally, propose corresponding measures for the problem and look to the future: Intelligent will "play" the ship industry.

Current Status and Cost Structure of Shipbuilding Industry

Current status of shipbuilding industry. Since 2008, the ship market has entered a "cold winter" period of 10 years. Some ship companies have chosen to withdraw from the market, sell assets to withdraw funds or transform into other manufacturing fields. The person in charge of Jiangmen Nanyang Ship Engineering Co., Ltd. said: "'Over the winter' is to meet the 'spring'", which has a lot of voices of the ship owners who are still firmly in the shipbuilding industry. In recent years, with the acceleration of supply-side reform and industrial structure optimization, China's shipbuilding industry has won the opportunity of industrial upgrading driven by policy and market demand. Recently, the shipbuilding sector has been bucked the trend and is active. Currently, shipbuilding industries are in the process of being In the small recovery phase of the mid-cycle, there is still a long way to go from long-term prosperity.

Cost of shipbuilding. The long-term downturn in the shipping market can not help but be thought-provoking. It is not difficult to find that while the total cost of shipping industry has increased in the past decade, the benefits have generally declined. The total cost of manufacturing of a shipbuilding industry is roughly divided into four aspects: labor cost, raw materials, supporting facility cost, and design management cost. Among them, the labor cost accounts for about 30% of the total ship cost, the raw materials account for about 25% of the total cost, the ship's various supporting facilities account for about 40% of the total cost, and the design management cost accounts for about 5%.

Table 1 Cost of a single ship



It is not difficult to find from the above picture: if the shipbuilding industry wants to improve the current downturn, it must pay attention to controlling the cost, and the labor cost is an important part of the total cost of shipbuilding, and it is necessary to strengthen its control research. Effectively control and reduce labor costs, improve the profitability of shipping companies, get out of the "cold winter", and accelerate the company's progress from the recovery phase to the prosperity phase.

The Meaning and Importance of Labor Costs in Shipping Industries

The meaning and indicator system of labor cost. The internationally common labor cost refers to the expenses incurred by the employer when hiring labor; the concept of labor cost in China is all direct and indirect expenses paid by the enterprise in the production, operation and provision of labor activities due to the use of labor during a certain period of time. Sum. In 1997, Document No. 261 issued by the Ministry of Labor of China stated that the scope of labor costs includes total wages of employees, social insurance expenses, employee welfare expenses, employee education expenses, labor protection fees, employee housing expenses and other labor costs.

There are three indicator systems for measuring labor costs: total labor cost indicators, labor cost structural indicators, and labor cost performance indicators. The labor benefit index includes labor distribution rate, personnel expense rate, labor cost profit rate, and labor cost as a total cost indicator.

Difficult to recruit! Expensive work! Shipbuilding labor costs have increased significantly. International Ship Network released the latest consultation: recruitment is difficult! Expensive work! Labor "pain points" plague the manufacturing industry. In recent years, the market situation of the ship market has not improved, the market is sluggish, the ship industries are generally poorly benefited, and there is a certain gap between the wages and the wages given to the workers; plus the shipping industries have more outbound operations, the working environment is bad, some technical activities are even safe. Hidden dangers have led to more and more people not wanting to work in shipping industries.

According to online survey data, in the economically developed areas of Jiangsu, Zhejiang and Shanghai, the wages of the masonry workers in the decoration industry are about 400-500 yuan a day. The wages of employees engaged in the take-out and express delivery industry are about 300 yuan a day, while the wages of skilled welders of large shipping companies are skilled. The highest is 280 yuan a day. A student who graduated from a ship is willing to go to a tea shop to sell milk tea. A commission of a cup of money is not willing to be a "sun and rain" technician. Most people will choose a comfortable environment with similar salary. jobs. The rapid development of the economy in the central and western regions has created a large number of employment opportunities and attracted many people to return to their hometowns. For shipbuilding enterprises that lack labor, it is even more difficult to recruit. In order to maintain the livelihood of the company, the person in charge of the ship has to recruit the employees in the more remote areas. The age of the employees is generally too large, because most of the first-tier cities are only children, and young people are more reluctant to be in a harsh environment. Holding an unsatisfactory income. Since 2008, some shipping companies in Shanghai have tried to attract and retain labor through the use of contract workers and the payment of five insurances to laborers. However, the effect of welfare is not obvious. The retention rate of new employees of shipbuilding enterprises is only 5%. about.

The shortage of labor has caused the labor cost of shipbuilding enterprises to increase by 5%-10% per year in recent years, which is much higher than the speed of increase in the production efficiency of shipbuilding enterprises. It also shows the phenomenon of low operating profit and low market. How to pay for the growing wages of workers and the significant costs of raw materials and supporting facilities, while ensuring the profitability of shipping companies, has become a top priority for shipbuilding companies, and how to control the labor costs in the shipbuilding process is well controlled. An imminent thing.

The importance and significance of labor cost control in shipbuilding process. In the shipbuilding process, labor cost is an important part of the total cost of manufacturing, which is related to the final profit of the enterprise, and is also closely related to the interests of each employee of the shipbuilding enterprise. Under the high-yield and high-wage state, the enthusiasm of employees will be correspondingly improved. People-oriented is the core of the scientific concept of development. The future of a company is also supported by each employee. Therefore, reasonable and effective control of labor costs is a necessary measure to ensure the vigorous and healthy development of enterprises.

First, the effective control of labor costs in the shipbuilding process can appropriately increase the operating profit of the enterprise. When the operating income is fixed, the smaller the labor cost, the greater the profit. Therefore, from the traditional point of view, labor cost and operating profit are relative; secondly, reasonable labor cost control can improve labor productivity. In addition to recruiting talents, enterprises also need to mobilize internal compensation and benefits. They also need to strengthen their professional and quality training, improve their enthusiasm in a certain way to increase productivity and promote the growth of shipbuilding enterprises. Finally, in shipbuilding. Good control of labor costs can weaken business risks to a certain extent. According to the law of diminishing marginal benefits, it can be concluded that an unlimited increase in employee income will not only bring good benefits, but also reduce marginal revenue. Most of the labor costs are the cost of cash, and the total control expenditure can reduce the business risks faced by the company.

Problems in Labor Cost Control in Shipbuilding Process

Difficulties in recruiting workers, expensive labor, and a sharp increase in employee salaries.

At the peak of the ship market, the sight of “10,000 man-made ships” was everywhere in China along the coast of China. Nowadays, this grand occasion has ceased to exist, and problems such as the sluggish shipping market, difficulty in recruiting workers, and high labor costs have followed. Shipbuilding enterprises are hard-working and have low salaries. However, the entry threshold for shipbuilding enterprises is relatively high. More laborers from remote areas cannot get on the job because they have low education level and cannot obtain relevant certificates. In order to keep the employees of the employees in the post, they have to raise their salaries. Many of the backbone technical workers who have grown up from the front line of production have implemented the annual salary system. The lack of labor directly leads to the increase in payroll payrolls. The consequence is the labor costs that rise during the day.

The personnel structure is unreasonable and there are redundant cases. As a labor-intensive enterprise, shipbuilding enterprises require a large amount of labor, but many enterprises are unreasonable in terms of personnel structure. For example, after obtaining an order, a ship company will choose to outsource the construction of the ship. The number of outsourced employees accounts for more than 80% of the entire enterprise. Such personnel structure is likely to have an outsourcing number for profit. Over-saturation, behind the birth of redundancy, means that some employees have weakened combat power and cannot achieve greater operational benefits in a limited time. From this point of view, on the one hand, the increase in labor costs, on the other hand, the reduction in work efficiency, for ship companies, it is a huge attack on the final profit.

Insufficient work enthusiasm and reduced employee productivity. There are two aspects to labor cost control, one is “open source” and the other is “throttle”. “Open source” refers to the method of improving the operational efficiency of the incumbent by improving the efficiency of the incumbent. The shipbuilding enterprise generally adopts measures such as improving employee compensation and improving the insurance of five insurances and one to improve the enthusiasm of employees and improve work efficiency. However, shipbuilding companies have adopted short-term incentive policies and lacked long-term welfare policies. Most of the shipbuilding enterprises are military industrial enterprises, and the distribution mechanism is too stable to reflect differences. A ship company is called “sunset enterprise” by outsiders. More than 60% of the incumbents are older employees. One person and one post have a fine division of labor. In addition

to the five insurance, one gold and the New Year's welfare, the salary is lower, and there are even In order to work overtime and deliberately delay the work, the state of distraction is presented, the work efficiency is low, and the labor cost is only increased.

The awareness of reform and innovation is weak, and the competitiveness of enterprises is declining. Relevant persons of COSCO Shipyard told the "Transportation Trade Bulletin" that the cost of labor and labor in China has increased rigidly. Compared with Japan and South Korea, the advantages have gradually disappeared. Shipbuilding enterprises in the Internet of Things and big data era will be gradually eliminated. The main reason for the high labor costs of China's shipping companies is the low level of shipbuilding efficiency and automation (product pool purchase and supply). Due to the low degree of automation, the indirect production quality is also affected accordingly. At present, the design error rate of Chinese shipbuilding enterprises is about 10 times that of Japanese and Korean counterparts. This severe trend has made it necessary for Chinese shipbuilding enterprises to cultivate a sense of reform and innovation, improve the competitiveness of shipbuilding enterprises, and continue to maintain their due advantages when they compete with other enterprises at home and abroad.

Improvement Measures for Labor Cost Control in Shipbuilding Process

Optimizing the recruitment policy and improving the salary incentive system. Shipbuilding companies are typical discrete enterprises. It is envisaged that recruiting relatively cheap labor from Southeast Asian countries is still an insurmountable obstacle. For the shipping companies themselves, it is necessary to properly optimize the recruitment policy, improve employee compensation, and give a certain degree of reward for outstanding performance or greater progress. In busy work, we must also combine "work and rest", properly carry out outdoor development activities, and enjoy physical and mental health while at the same time, and can better invest in the next work. For the national level, it is possible to appropriately liberalize the policy of recruiting from abroad, and at the same time, to conduct nationwide popularization of the application for examination, and to open education for people in remote areas for free. Only when shipbuilding companies and countries work together can we better reduce the labor costs in shipbuilding and continue to maintain the advantages of a "building ship power".

Establishing or improving the labor cost control system of shipbuilding enterprises. The shipbuilding enterprise is a large-scale enterprise. The effective labor cost system should be based on the implementation of comprehensive budget management. The shipbuilding enterprise will carry out budget verification for the next financial year according to its own development strategy and business objectives. The labor cost control system includes ex ante planning (labor cost budget), in-process adjustment (labor cost accounting and early warning mechanism), post-summary (labor cost accounting and performance evaluation), and feedback. The establishment and improvement of the labor cost system can comprehensively detect the whereabouts of various cost expenditures, timely identify problems and deal with them, rationally plan resource allocation, and improve the input-output efficiency of the labor costs of shipbuilding enterprises.

The production links are closely coordinated, and the reward and punishment mechanism is in place. In the manufacturing process of shipbuilding enterprises, there are long processes and many links. It is necessary to closely link and cooperate with each other to improve the overall labor efficiency. The interlocking link is like a tandem light bulb. If the previous one has a problem, it will affect the next work. If it is accumulated for a long time, it will lead to a decrease in efficiency. Therefore, strengthening the control and supervision of the production link, closely cooperating, and giving appropriate improvement in compensation, can implement the reward and punishment mechanism of more work and more, further promote the enthusiasm of employees, improve work efficiency, and thus achieve the purpose of controlling labor costs.

Adapting to the trend of the times and marching toward intelligence. Affected by the demographic dividend factor, the labor cost has increased sharply. The traditional artificial production mode lags behind the development of the big data era. Under such a background, unmanned and intelligent is becoming a new development trend of the shipbuilding industry.

Shipbuilding enterprises should follow the trend of the times, carry out reform and innovation, combine high-tech with enterprises, and apply intelligence to various departments.

The Future Trend of Shipbuilding Enterprise Development: Artificial Intelligence

Faced with the diversification of information in shipbuilding and the complexity of assembly operations, more and more countries have started the wave of “machine substitution”. They combined robotics and computer integrated manufacturing systems to develop applications, and with the effective cooperation of high-precision materials and precision components, they gradually realized the automation problem of shipbuilding production. Japan's ship welding robots, the commercial type of robots developed by the United States are used in ships, and the three major shipyards in Korea have added robots to the original shipbuilding chain, and the market scale has also expanded.

For China, although the robot application in shipbuilding is in an emerging stage, the Equipment Industry Department of the Ministry of Industry and Information Technology issued the "Guidelines for the Construction of Intelligent Ship Standard System (Draft for Comment)" and Zou Runfang of Tianfeng Securities believe that the intelligent ship management system, "Smart Ocean" Time-space big data and cloud service platforms, high-end marine sensors, etc. have broad industrial prospects. These hotspots all imply that the future artificial intelligence will play the shipbuilding industry. Intelligentization not only brings about the improvement of efficiency, but also saves a lot of labor costs. The intelligent workflow can also attract more high quality and high quality. Quality talents, streamline the operation process and bring higher profits to shipbuilding companies.

References

- [1] Z.D. Tan: Audit and Financial Management (2019) No.5, p33.
- [2] C. Chen: Chinese Maritime (2018) No.11, p37.
- [3] C.Y. Ren: Accounting Learning (2016) No.6, p45.
- [4] K. Zhou: Chinese Business Theory (2017) No.26, p88.
- [5] Y. Yang: China Economy and Trade (2016) No.10, p190.