Research on the Construction of Manufacturing Training Network Platform Based on Computer

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Abstract. At present, the training framework and form of manufacturing workers are still floating on the surface, which makes it difficult to really boost the upgrading of manufacturing enterprises, and makes the existing training effect difficult to achieve the expected results. Based on this, this paper first analyses the development status and problems of manufacturing training platform, then studies the construction of computer-based manufacturing training network platform, and gives the application optimization strategy of manufacturing training system.

Keywords: Network Platform, Manufacturing Training, Computer

1. Introduction

With the iterative progress and maturity of intelligent tech represented by computer, it has been widely and deeply studied and popularized in many fields, especially in the construction of training network platform, which greatly promotes the improvement of training system and training efficiency. On the other hand, as a big manufacturing country, China's manufacturing industry has made great progress and development, and gradually become a pillar industry of the national economy. On the one hand, the rapid progress of manufacturing industry benefits from the advantages of huge demographic dividend and labor cost; on the other hand, it is also closely related to the huge consumer market and broad domestic demand. However, with the continuous development of social economy, the manufacturing industry is facing the embarrassing situation of big but not strong.

At present, the manufacturing industry is facing the realistic dilemma of transformation and upgrading. One of the important reasons is that the manufacturing personnel pay too much attention to the quality and ability of personnel. The advantage of demographic dividend depends too much on the number of people rather than the quality of personnel, which directly leads to the decline of the production efficiency of the manufacturing industry and the difficulty of effectively improving the
industrial added value. Specifically reflected in the level of innovation ability of manufacturing industry, it shows that the core tech ability of manufacturing products is weak, most of them are homogeneous references and models, and there is little originality and innovation. The huge scale of manufacturing industry does not match with its low profit. The advantage of demographic dividend in quantity is also weakening. It is urgent to change the status quo of manufacturing industry.

In order to realize the transformation and upgrading of the manufacturing industry and the adjustment of the industrial structure, the key point is to improve the comprehensive quality of the manufacturing personnel team. Therefore, it is necessary to increase the training of the manufacturing employees and the ability improvement[1]. With the development advantages of Internet and computer, it is necessary to build an information-based training platform, improve the training system of manufacturing employees, and realize the hierarchical promotion of personnel tech, management and skills. In addition, the improvement of value contribution, creativity and career level of manufacturing employees is also inseparable from the perfect training system. The improvement of core competitiveness and the optimization of internal structure of courseware manufacturing enterprises are inseparable from the construction of efficient and scientific training platform.

The function and value of the training system will help to realize the new development and upgrading of the manufacturing industry. However, the current practice framework and form of employee training platform is still floating on the surface, which makes it difficult to really boost the upgrading of manufacturing enterprises[2]. In addition, the existing training effect is difficult to achieve the expected, which directly leads to the training management gradually becoming a marginal administrative service. In short, in view of the practical problems faced by the manufacturing industry, it is necessary to develop the manufacturing industry information training platform, realize the fairness and openness of the employee training system, and provide several aspects of information services as shown in Figure 1 in the manufacturing industry training network platform, so as to comprehensively promote the success of manufacturing enterprises. Therefore, it is of great practical value to study the construction of manufacturing training network platform based on computer.

![Figure 1. Service content of manufacturing training network platform](image)

2. Development status and problems of manufacturing training platform

2.1. The development background of manufacturing training platform

As the pillar industry of the national economy, manufacturing industry is still facing more serious technical and human bottlenecks, and continues to perplex the sustainable development of manufacturing industry. Among them, technical problems need to be solved with the help of
innovation driven, while the practical problems of human resources need to be obtained through continuous training optimization[3]. And with the help of human resources, the competitive advantage is more lasting and valuable. In addition, with the structural imbalance, supply and demand mismatch and the acceleration of the transformation and upgrading of manufacturing industry, the demand for high-quality talents is increasingly urgent. Statistics show that the proportion of skilled workers in the current manufacturing industry is relatively high, while the proportion of highly skilled talents is relatively low. The structural imbalance in the employment of manufacturing employees is becoming more prominent.

2.2. The current situation of human resources in manufacturing industry

At present, the core advantage of China's manufacturing industry is the cost of labor. With this advantage, the market export of domestic manufacturing industry can grow rapidly[4]. In this context, the dependence of domestic manufacturing industry on foreign markets is also increasing. Secondly, the huge population also makes the entrepreneurial vitality of the manufacturing industry continue to improve, and become one of the driving forces of the development of manufacturing industry[5]. However, the current manufacturing industry is still facing the dilemma of low tech content and low added value of products, which also shows that China's manufacturing industry is still in the primary stage, and there is a large gap of high-quality and high skilled human resources.

In addition, at the level of manufacturing personnel structure, it mainly includes education structure, age structure, and personnel business structure and so on[6]. Among them, at the level of academic structure of manufacturing employees, the overall academic structure of manufacturing employees is low, and there is a lack of highly educated talents. The statistics of personnel's academic structure are shown in Figure 2 below. This shows that the creativity and education level of manufacturing employees need to be further improved.

![Figure 2. Educational background structure of manufacturing employees.](image-url)

In the age structure of the manufacturing industry, it gradually presents the characteristics of younger, especially the production line employees[7]. However, senior technicians are older,
especially those with rich experience, which indicates that there is a certain fault in the advanced tech
talents of manufacturing industry, which is not conducive to the healthy development of sustainable
development. At the level of personnel and business composition, the proportion of ordinary workers
in production and operation is too high, while the proportion and number of senior management and
senior skilled personnel are seriously insufficient, which makes the supply and demand of senior
talents in manufacturing industry seriously unbalanced.

2.3. Training status of manufacturing employees

At present, there are still many deficiencies and problems in the staff training of manufacturing
industry, which are reflected in the following aspects: the manufacturing enterprises do not pay
enough attention to it, the investment in enterprise training is low, and the training content is divorced
from the career development of employees[8]. On the one hand, the investment of training funds for
manufacturing employees is relatively low; on the other hand, the training content of manufacturing
enterprises pays too much attention to the improvement of short-term skills, and ignores the
improvement of enterprise personnel's professional ability and the training and cultivation of personal
growth level. In addition, the pertinence of training is not strong, both the form and content are
relatively boring, leading to low training efficiency.

3. The construction of manufacturing training network platform based on computer

3.1. Content architecture of manufacturing training network platform

The core content of the construction of the manufacturing training network platform is to establish a
systematic and comprehensive information and training knowledge base, which can effectively
connect with the enterprise development and employee growth and other related contents, and realize
the convenient dissemination and sharing of dynamic information and information in the aspect of
informatization[9]. Secondly, the manufacturing training network platform can provide rich internal
and external resources, and provide targeted and personalized online training services according to the
differences of staff levels. In addition, the online training system of manufacturing industry provides
advanced training, realizes multi-level and all-round training through the sharing of courseware and
materials on the network platform, and the content can be selected and customized by the trainees. In
addition, according to the differences of the business content of the personnel, it provides training of
theory, practice and operation categories, and can carry out online training assessment.

3.2. System design of manufacturing training network platform

Manufacturing training network platform system includes many different modules. In addition to
online training module, it also includes online consultation, information resource display and sharing,
personalized knowledge management and professional forum exchange and discussion. At the system
design level of manufacturing training network platform, its architecture is shown in Figure 3 below,
and the systems at all levels are independent of each other. Based on the architecture of different
levels, the database server, application software and function modules are set up to realize the data
interconnection and man-machine interconnection between each module.
3.3. Application system development of manufacturing training network platform

At the application system development level of manufacturing training network platform, it includes the design and development of database structure of training knowledge platform, knowledge management tools, knowledge coding tools, transfer tools of training materials and content, knowledge mining tools and performance tools of training resources[10]. Among them, the database structure design and development of the platform is mainly to realize the combination query and search of training materials; the knowledge management tool of the knowledge platform is mainly to realize the mining and standardization of training resources, and present them to employees in a personalized way. In addition, training resource mining tools can obtain training resources from scattered and irregular information; knowledge generation tools can generate training knowledge; coding, transfer and performance tools can organize, exchange, share and display training information.

3.4. Application and optimization of training system in manufacturing industry

First of all, at the system level of training system, with the help of network platform, a cycle process is formed from planning to implementation, evaluation to feedback optimization and re planning, so as to continuously improve the training system. Secondly, at the level of training system process optimization, improve the training effect evaluation mode and training effect evaluation mechanism to improve the quality of training. In addition, at the content level of the training system, we should improve the training content of each post skills, compile the corresponding training materials, and try our best to establish a standardized training matrix for the same major, so as to realize the network platform and systematic training mechanism.

4. Conclusion

In summary, using the internet and computer to build an information-based training platform is helpful to improve the training system of manufacturing employees, and realize the hierarchical promotion of personnel tech, management and skills. Based on the analysis of the development status and problems of manufacturing training platform, this paper studies the status of manufacturing human resources and training. Through the research on the construction of the computer-based manufacturing training network platform, this paper analyzes the system design and development process of the manufacturing training network platform, as well as the optimization measures.

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