

Thoughts on the Science and Technology Management Mode of Commercial Aircraft Enterprises

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Keywords: Commercial aircraft enterprises; Science and technology management; Elements; Mode

Abstract: Competition puts forward higher requirements for the technical content, quality, and the scientific and modern degree of internal management of enterprise products, especially for high-tech industries such as commercial aircraft. Therefore, it is essential to think about new scientific and technological management mode to improve the comprehensiveness, efficiency and economy of science and technology management of commercial aircraft enterprises. This study comprehensively analyzed the elements and models of science and technology innovation management mode, proposed a systematic and efficient science and technology management system according to the development needs of commercial aircraft enterprises, and expanded and improved the scientific and technological management work of commercial aircraft enterprises. It is necessary to complete science and technology planning, personnel training, capital investment, resource integration, cooperation and exchange, etc., comprehensively improve the quality of science and technology management of commercial aircraft, and promote the development process of China's commercial aircraft enterprises.

1. Introduction

Major scientific and technology projects refer to the backbone projects that have a significant impact on the national economy and social development, and have the characteristics of long construction period, large scale, significant benefits, high scientific and technological content and far-reaching impact. Relying on major scientific and technological projects to carry out scientific and technological innovation has become a significant feature of commercial aircraft science and technology innovation [1]. In recent years, a large number of technical researches and application relying on major projects have provided effective guarantee for the development of commercial aircraft in China. To further standardize the science and technology management of commercial aircraft and improve the allocation efficiency of limited scientific and technological resources, it is urgent to carry out the research on the scientific and technological management mode of commercial aircraft, reasonably utilize policy management, operation management and prediction management to realize the promotion of technology research and development and the standardization of scientific management, to fundamentally improve the effectiveness of science and technology management of commercial aircraft and enhance its business efficiency.

2. Elements and Models of Science and Technology Innovation Management Mode

2.1. Policy management

The purpose of policy is to guide a technology or decision to be more reasonable and scientific, so the management of scientific and technological innovation cannot be separated from the management of relevant policies. Commercial aircraft enterprises should formulate policies suitable for science and technology development according to the current situation of science and technology development, such as science and technology investment policy, patent policy of scientific and technological achievements, incentive policy of scientific and technical personnel, etc.

It is crucial to establish a reasonable system and layout of science and technology based on the policy.

2.2. Subjective management

The development of commercial aircraft enterprises needs to be combined with the actual situation and the relevant requirements and laws of market economy. Science and technology management is no exception. It is necessary to bring the management of scientific and technological innovation into the scientific research environment of commercial aircraft. It is essential to identify the position of scientific and technological resources in the society according to the specific use of scientific and technological resources.

Additionally, the construction of scientific and technological innovation management mode of commercial aircraft enterprises are also supposed to create a good and orderly environment in the subjective level, to ensure that the scientific and technological staff can do their best to fully excavate their scientific research ability, and then promote the smooth progress of scientific research.

2.3. Operation management

In order to do well in the management of scientific and technological innovation of commercial aircraft enterprises, it is necessary to make full efforts in the management, because the management content involved in scientific and technological innovation is extremely rich and the management objects present a diversified characteristics. For instance, the development of new scientific and technological products, process quality, technical standards and technical equipment of commercial aircraft enterprises are the scope and content of business management. Therefore, commercial aircraft enterprises are expected to pay attention to the change of management methods and concepts, fully mobilize human resources, change the operation mechanism, strengthen the circulation of scientific and technological achievements and the transformation of scientific and technological achievements, to establish a flexible, efficient and orderly scientific and technological management system for commercial aircraft [2].

2.4. Behavior management

It is necessary to create a comfortable working environment in the process of science and technology management of commercial aircraft enterprises, because only a good working environment can promote the full potential of scientific and technological personnel. Besides, it is crucial to adhere to the people-oriented principle because the foothold of all management and work is people. The more science and technology develops, the more people's value should be embodied. In addition, the cooperation and competition between scientific and technological talents should be strengthened. Facing the challenge of the new century, the individual in the society cannot complete a task alone. This is a matter of cooperation. Scientific and technological activities are inseparable from cooperation, because scientific and technological activities themselves involve many fields and disciplines. Therefore, it requires the joint completion of multi-disciplines and multi-fields. On the one hand, we should strengthen the sense of cooperation between scientific and technological talents.

2.5. Prediction management

One of the important contents of prediction management is to help people understand the objective laws, formulate policies and planning for science and technology and economy to make science and technology economy develop continuously and healthily. The prediction management of commercial aircraft enterprises is to find the law from the current development situation of scientific and technological innovation, and then use the law to speculate the future development of scientific and technological innovation of commercial aircraft.

3. Development of Science and Technology Management in Commercial Aircraft Enterprises

3.1. Attach importance to science and technology planning

3.1.1. Study demand and supply in depth

In terms of demand, we should carefully track the development trends of commercial aircraft and China's national conditions, and earnestly understand the scientific and technological needs of China's commercial aircraft development; in terms of supply, we should comprehensively and deeply understand the scientific and technological strength and development potential of commercial aircraft at home and abroad.

3.1.2. Improve the planning system

On the basis of improving the research on demand and supply, we should improve the science and technology planning system of commercial aircraft. According to the needs of different fields and levels, efforts should be made on the "comprehensive" and "practical" aspects of the planning system. The planning system should include the strategic planning, medium and long-term planning and short-term planning of science and technology of commercial aircraft, and strengthen binding quantitative indicators to facilitate operation and evaluation.

3.1.3. Highlight the key points of planning

In the science and technology planning system of commercial aircraft, it is necessary to highlight the key fields and major projects of scientific and technological innovation according to different scientific and technological needs, and carefully refine some key technologies and bottleneck issues restricting the development of commercial aircraft. As the focus of planning, they are respectively reflected in different stages from short-term, medium and long-term to strategic planning.

3.2. Cultivate innovation team

Scientific and technological innovation system can become the carrier of gathering excellent talents and research teams and cultivating high-quality talents. The construction of science and technology innovation system of commercial aircraft should attach great importance to solving the problem that the talent structure and education structure are not suitable for the development of commercial aircraft. It is necessary to establish a mechanism to make innovative talents stand out and broaden the channels of talent discovery [3]. According to major projects, we can break the boundaries of units, encourage joint research, set up innovation teams, give policy support and implement target management.

Additionally, innovation culture is an atmosphere conducive to innovation activities. In the scientific and technological innovation activities, creating a good scientific research environment and a strong innovation atmosphere functions positively in encouraging and cultivating innovative thinking, cultivating innovative talents, obtaining innovative scientific and technological achievements and realizing sustainable development, and it is also an effective guarantee to improve the innovation ability of the overall team.

3.3. Increase investment in science and technology

Commercial aircraft, as an industry of concentrated application of high-tech, is supposed to have a stable source of funds for scientific research institutions to ensure its sustainable development. Therefore, relevant units and enterprises need to adjust and optimize the structure of investment in science and technology of commercial aircraft. The investment in science and technology should focus on the key points. Enterprises are supposed to be guided to invest in science and technology according to the principle of "Who puts in, who gains", and the limited funds should be invested in key fields and major projects in a slanting way, to ensure the progress of scientific research and construction of commercial aircraft.

At the same time, it is necessary to establish a diversified and multi-channel investment system for science and technology funds. Specifically, it is crucial to should actively strive for the state's

investment in commercial aircraft science and technology, strive for the investment and support of Ministry of Science and Technology and local governments for commercial aircraft science and technology, encourage commercial aircraft enterprises to make full use of the relevant national policies to increase investment in scientific and technological innovation and actively participate in international cooperation and strive for foreign countries scientific and technological investment, and encourage scientific research institutions to invest in science and technology in the form of talents and infrastructure.

3.4. Integrate science and technology resources

In the scientific and technological management of commercial aircraft, on the one hand, it is necessary to continue to build the existing scientific research base, improve the scientific research infrastructure, and improve the level of opening and cooperation among laboratories. At the same time, it is crucial to build a new scientific research base according to the actual needs, focus on the construction of aircraft safety experimental base, and draw lessons from the advanced management and operation methods at home and abroad to build a well-known scientific and technological innovation base for commercial aircraft.

Information platform occupies a special position in the commercial aircraft science and technology infrastructure. Compared with other science and technology infrastructure, the integration and sharing level of its information resources are required to be higher. In the integration of science and technology resources of commercial aircraft, it is essential to pay more attention to the integration of information platform, further strengthen and coordinate the construction of commercial aircraft information platform, transform equipment, improve data, develop data in depth, and enhance its ability to serve the development of the industry.

3.5. Expand exchanges and cooperation

In the scientific and technological exchange and cooperation of commercial aircraft enterprises, it is essential to pay attention to the establishment and improvement of multi-channel communication mechanism. Regular forums and seminars can be held to give full play to their respective advantages to form a joint force of scientific research. It is necessary to strengthen international scientific and technological exchanges and cooperation [4]. The development of commercial aircraft has common characteristics, and in the trend of global development of the industry, international scientific research cooperation is particularly important. In the international exchange and cooperation, the focus should be on strengthening scientific and technological exchanges and cooperation with Europe and the United States. It is crucial to timely understand and track the latest developments of the new generation air transportation system of the United States and the European and American sky integration plan, absorb their new ideas and technologies, and pay attention to the coordinated operation of different systems in various countries to lay a good foundation for the scientific and technological development of commercial aircraft enterprises.

4. Summary

Commercial aircraft is an essential part of transportation industry, which plays an important role in national economy, politics and individuals' life. Since the reform and opening up, commercial aircraft is one of the fastest growing industries. According to the development strategy formulated by CAAC, in the next 15-20 years, China's commercial aircraft will continue to maintain sustained, rapid, coordinated and healthy development, and improve the scientific and technological management of commercial aircraft enterprises. Especially in the aspects of system management, organization management, resource integration, exchange and cooperation, it is necessary to further expand the scientific and technological research and development capabilities of commercial aircraft enterprises, form an efficient science and technology management system, and complete the historic leap from the growth stage to the strong stage of China's commercial aircraft enterprises.

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