

Evaluation of Immune System Health of Quality Improvement Teams in Manufacturing Enterprises

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Abstract: In recent years, the quality problems of manufacturing enterprises have frequently occurred, which intangible brought huge economic losses and survival risks to enterprises, which in turn led to the inability to effectively enhance and improve the quality of products of enterprises. Therefore, quality issues are still the key issues that manufacturing companies need to solve urgently, which further drives the establishment and use of quality improvement teams in manufacturing companies to solve quality problems in the company and achieve quality improvement goals. Therefore, this article uses the principle of bionics, combined with the relevant theories of immunity in biology, to evaluate the health of the immune system of the quality improvement team of the manufacturing enterprise. According to the relevant discussion of the immune system, the evaluation research in this article will be carried out from two aspects of the innate immune system and the acquired immune system. Among them, the evaluation of the health of the innate immune system is carried out from the two aspects of quality resources and quality culture; acquired immunity system health evaluation research is carried out from three aspects: organizational quality monitoring, organizational quality defense, and organizational quality memory. The final evaluation results will provide a certain theoretical basis and practical guiding significance for the survival and development of quality improvement teams in manufacturing enterprises.

1. Introduction

With the changes in the social environment, market competition has become increasingly fierce. If companies want to survive in a complex environment, they must rely on excellent "quality." As we all know, market competition largely depends on product quality competition, and quality is the last word [1]. However, in recent years, enterprise quality problems have emerged in an endless stream. Quality problems have always been the key issues that enterprises have faced for a long time and should be solved first [2-5]. Therefore, manufacturers have to improve their own quality problems, and the quality improvement process is also a continuous improvement process in which the

company sets up a dedicated quality improvement team to solve and improve quality problems. The quality improvement team can be said to be a team specially formed by an enterprise to improve quality and increase efficiency. It is an effective organizational form for quality management activities. Therefore, the formation of a quality improvement team is of great significance. It has greatly improved the quality of the company's products and further enhanced the competitiveness of the company. According to related theoretical research, the methods and means to solve quality management problems in the past are no longer universally applicable, so companies must use a new quality management model and paradigm, that is, "immunization" [6]. Just as the human body has its own immune system, Wang Yihua [7] proposed that companies also have their own immune system to prevent external aggressions. According to the theory of organization bionics, the healthy growth of human beings in the natural environment facing various viruses is largely due to the strong immunity of the human body, and the quality improvement team of manufacturing companies also faces some biological problems. The unpredictable and complex living environment of organisms, therefore, the quality improvement team must have a strong immune system in order to function in such a complex environment in order to maintain normal operation [8,9]. The immune system is a complex system with the ability to identify "self" and "non-self" and the function of eliminating "different". It is a defense system against foreign substances and plays a huge role in maintaining the safety and health of the human body or the enterprise itself. Drawing lessons from the views of Lu Ping and Wang Yihua, the immune system is divided into an innate immune system and an acquired immune system. The innate immune system is an innate immune system. Quality resources and quality culture reflect its basic defense capabilities. The basis of the immune response is also the first line of defense for the enterprise; the acquired immune system is the immune system gradually formed during the development of the enterprise, with more efficient defense capabilities such as tissue quality monitoring, defense and memory. According to the WHO definition of health, health refers to the perfect state achieved by an individual in all aspects [10]. Therefore, analogous to human health, immune system health does not only refer to body health, but also includes other health such as adaptability. To sum up, this article will evaluate and study the overall health of the immune system of the quality improvement team of a manufacturing company from the health of the innate immune system and the health of the acquired immune system, and further provide for the efficient operation of the quality improvement team of the manufacturing company. Related theoretical basis and practical significance.

2. Immune System Health Evaluation

2.1. Health Assessment of Innate Immune System

Innate immunity is a kind of innate immune behavior. It is a defense mechanism gradually formed in the process of continuous evolution and improvement of the body, and it is the foundation of maintaining corporate health. Exploring Sun Panshi's research on enterprise quality management, the realization of innate immune function depends on quality resources and quality culture [11]. Therefore, this article will carry out the evaluation research on the immune system health of the quality improvement team of manufacturing enterprises from the aspects of quality resources and quality culture.

2.1.1. Quality Resources

Quality resources refer to some resources with competitive advantages, which can be directly controlled and used by enterprises, including internal and external resources of enterprises. Enterprise quality resources are the most basic element that constitutes the guarantee of product

quality, as well as the work basis and guarantee conditions for quality management activities [11]. Quality resources are the basis for carrying out quality activities, and the more high-quality quality resources will provide the company with powerful preconditions. Quality resources include not only hard resources such as fixed equipment and facilities, but also shared resources such as technology, so the importance of information sharing is self-evident. No matter any company, it must not only have excellent quality resources, but also understand the sharing of resources. This is the long-term survival. Whether it is inside or outside the enterprise, if you just stand still, it will be difficult to move forward due to the lack of communication and communication between all levels, between departments, and between each enterprise and the external environment. Therefore, companies should be aware of the importance of information sharing, and constantly strengthen employees' awareness of information sharing to promote rapid and efficient development of the company.

2.1.2. Quality Culture

Quality culture is an organizational culture oriented by "quality". It is different from corporate culture. It is a study of the culture in quality management activities, focusing on improving the quality awareness, concepts and management capabilities of personnel in the company, and ultimately affecting the high-quality development of the organization [11,12]. Enterprises gradually introduce the construction of corporate quality culture into corporate management in the process of their own business development. With the improvement of the status of "quality" in the company, the importance of quality culture has become increasingly prominent [13]. If an enterprise wants to sustain high-quality development, it must have an advanced quality culture. There are various manifestations of quality culture, among which employee motivation is one of its manifestations. People are the foundation of enterprise development. The survival and development of an enterprise cannot be separated from the active dedication of personnel. Therefore, companies should formulate a certain reward system and strive to retain talents. Different aspects and levels of rewards can be provided according to the characteristics and needs of employees, so that employees feel their own value and importance, and then mobilize employees' enthusiasm for work, and strive to create more Multi-benefit.

2.2. Health Evaluation of Acquired Immune System

Acquired immunity is an acquired immunity behavior produced by companies constantly adapting to the market environment and solving their own quality problems, and is a guarantee for further maintaining the health of the company. The quality improvement team is a special form of organization, so for the research in this article, the relevant tissue immunity theory is still applicable [14]. Drawing lessons from research by Shi Liping and others, in enterprise quality management, organizational quality monitoring, organizational quality defense, and organizational quality memory are the key elements that constitute acquired immunity [15,16]. Therefore, this article will evaluate the health of the immune system of the quality improvement team of manufacturing enterprises from the above three aspects.

2.2.1. Organizational Quality Monitoring

Organizational quality monitoring refers to the monitoring of the internal and external environment of the enterprise at the quality level. In order to identify and eliminate threats to its own quality and safety factors, a good organizational quality monitoring behavior can effectively guarantee the quality improvement team the immune system is healthy. In organizational quality monitoring behavior, self-quality monitoring plays an important role. Whether it is an individual or an enterprise, if you want to achieve long-term development and maintain the health of your own

acquired immune system, you should first conduct self-supervision testing, which is the first line of defense for immune surveillance. In business management, self-quality supervision is one of the forms of product quality supervision, and it is the basis for ensuring the quality of the company's products. If companies want to have excellent product quality, they must conduct effective self-quality supervision [17]. Self-quality supervision is the basis of organizational quality monitoring behavior; it is the foundation of maintaining the health of the acquired immune system; it is also the guarantee of quality in all aspects of the enterprise. If an enterprise wants to win with "quality" and enhance its competitiveness, it must do a good job of internal self-quality supervision and inspection to further promote its development.

2.2.2. Organization Quality Defence

Organizational quality defense refers to a behavior that an organization resists and eliminates factors that threaten its own quality and safety in order to ensure quality safety. Effective quality defense helps maintain the health of the immune system of the quality improvement team. Defense is carried out under the premise of surveillance, and the effectiveness of surveillance determines the effective conduct of defense. In organizational quality defense behavior, organizational learning plays an important role and is one of the key elements to maintain the health of the immune system. Similarly, in the operation and management of a company, organizational learning is also the key to a company's sustainable competitiveness in a fierce social environment. If an enterprise wants to maintain the health of the immune system of the quality improvement team from the aspect of organizational quality defense, it needs organizational learning. In other words, enterprise employees need to have this organizational learning ability. Organizational learning ability refers to the ability of members in the organization to use some measures and methods to perfectly use and create organizational knowledge for the second time [18]. Employees with organizational learning capabilities will effectively use corporate knowledge and re-create corporate knowledge to solve various quality problems faced by quality improvement teams in manufacturing companies, strengthen the company's own strength, and further bring greater benefits to the company.

2.2.3. Organizational Quality Memory

Organizational quality memory refers to the behavior of storing and memorizing quality knowledge and information generated through surveillance and defense to promote internal quality decision-making in the enterprise. Through organizational quality memory, it can effectively block external aggressions and maintain the health of the body's immune system. Organizational quality memory is an enhanced learning process, an important factor for the successful operation of the team and the response to environmental changes and challenges [19,20]. In the behavior of tissue quality memory, tissue forgetting plays an important role and is one of the elements to ensure the normal operation of tissue quality memory in the immune system. In the business management, organization forgetting is also a favorable means to promote the survival and development of the enterprise. As the saying goes: "Take the essence and discard the dross." Organization forgets exactly this. It is not the forgetting of all information knowledge, but a process of discarding the old and adopting the new, which has achieved the goal of self-renewal [21-23]. Organizational forgetting is the improvement of the quality memory of the internal team of the enterprise; it is the guarantee for maintaining the health of the immune system; it is the means to enhance the comprehensive strength of the enterprise. If an enterprise wants to ensure the normal operation of the quality memory of the immune system within its own quality improvement team, it needs to effectively organize to forget, discard the old and get the new, and constantly adapt to the needs of enterprise development.

3. Conclusion

At present, my country has become a major manufacturing country in the world, and the development of the manufacturing industry needs the continuous improvement of its own quality. Quality is the life of an enterprise, and manufacturing companies have to set up quality improvement teams to meet their own development needs. The goal of the establishment of the quality improvement team is to solve the quality problems of the enterprise and improve the quality improvement goals of the enterprise. Therefore, if a manufacturing company wants to win with "quality" and gain a competitive advantage, it should give priority to ensuring the health of the immune system of the company's own quality improvement team. Therefore, this article uses the principles of bionics, combined with the relevant theories and mechanisms of biological immunity, to carry out evaluation research on the health of the immune system of the quality improvement team of manufacturing enterprises from two aspects: the health of the innate immune system and the health of the acquired immune system. The research results show that: in the research on the health evaluation of the innate immune system, quality resources should focus on information sharing, and the quality culture should focus on employee motivation; in the research on the health evaluation of the acquired immune system, organizational quality monitoring behavior should first focus on self-quality supervision and organization Quality defense behaviors should focus on employees' own organizational learning capabilities, and organizational quality memory behaviors should focus on organizational forgetting. At the same time, the evaluation research on the immune system health of the quality improvement team of manufacturing enterprises should not only focus on one aspect of the innate immune system or the acquired immune system, but should focus on the coordination between the two to ensure manufacturing. The continuous and healthy development of the immune system of the corporate quality improvement team.

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