

Healthy Operation Mechanism of Innate Immune System of Quality Improvement Team in Manufacturing Enterprises

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Abstract: In the context of rapid economic development, the status of quality in enterprises is gradually rising, and high-quality development has become a goal that enterprises continue to pursue. In this era of quality wins, the importance of quality cannot be ignored. This has also led many manufacturing companies to set up quality improvement teams to enhance the quality of products or services and thus enhance their competitiveness. Innate immunity is the basis of immunity and the foundation of maintaining the health of the team. Therefore, the quality improvement team of a manufacturing company first needs to enhance its own immunity and strive to maintain the health of the team's own innate immune system in order to maintain the normal operation of the team. Therefore, this article aims at related issues, uses the principle of bionics, and takes innate immunity as the starting point to study the operating mechanism of quality improvement team innate immune system health in manufacturing enterprises. The antecedent variables are selected as information sharing and employee incentives; the mediating variables are the constructive elements of the innate immunity of organizational quality are quality resources and quality culture; the moderating variable is team conflict; the result variable is the health of the immune system. Through the combination and configuration of all parties, jointly construct its theoretical model, study the operating mechanism, and ultimately improve the quality of the manufacturing enterprise. The healthy operation of the team's innate immune system provides a theoretical basis.

1. Introduction

Under the background of the "Quality Powerful Country" strategy in the new era, the status of "quality" in enterprises is steadily rising, and it has gradually become a key factor for enterprises to enhance their own competitiveness. For manufacturing companies, quality is their lifeblood. With the vigorous advancement of the "Quality Powerful Country" strategy, the product quality of my

country's manufacturing companies has made great progress, but there are still many shortcomings, and manufacturing companies still have a lot of room for quality improvement [1]. At this stage, the domestic and foreign markets are continuously merging, and competition is gradually intensifying. If manufacturing companies want to gain market share, they must have a strong quality advantage to continuously improve their own competitiveness. Therefore, in order to build a powerful enterprise and help the enterprise develop efficiently, it is urgent to improve product quality [2]. In this regard, manufacturing companies set up quality improvement teams to solve corporate quality problems, optimize their own structure, and improve product quality. Regarding the quality improvement team, Feng Xiaobin [3] proposed that it was specially set up to complete the quality improvement tasks of enterprise products, services, technology, etc., and team-based work can better improve corporate performance and achieve $1+1 > 2$ effects. Therefore, the establishment of the quality improvement team greatly solves the quality problems of the manufacturing enterprises and improves the product quality level, thereby promoting the survival and development of the manufacturing enterprises.

In today's society, the cross-fusion of management and biology has made great achievements, and many biological theories are widely used in management. In recent years, the concept of "immunity" in biology has been widely used in management. The term "immunity" was first applied in biomedicine and was applied to the body's self-defense [4,5]. Wang Yihua, Lv Ping and others [6,7] first applied the concept of immunity to the quality management practice of enterprises, and proposed the concept of tissue immunity, which is the ability of an organization to maintain the health of the body through some methods and measures. Subsequently, Lu Ping and Wang Yihua [8,9] divided tissue immunity into tissue specific immunity and tissue non-specific immunity. The latter is also called innate immunity, innate immunity. In the research of the corporate immune system, it is not only the basis for the immune response of the enterprise, but also the primary line of defense for the enterprise to resist infringement, which helps to maintain the health of the enterprise. Following Lv Ping and Wang Yihua's research on the tissue immune system, Sun Panshi [2] draws on Li Quanxi's point of view, and further through quality management analysis concluded that quality resources and quality culture achieve the inherent immune function, and quality culture occupies an important position. According to related theories of immunity, the ultimate goal of immunity is to maintain the health of the enterprise system. Therefore, this article will study the operating mechanism of the health of the innate immune system of the quality improvement team of the manufacturing company, and fundamentally guarantee the health of the innate immune system of the quality improvement team of the manufacturing company, so as to better optimize the quality of the company's own products and improve the manufacturing company. Competitiveness, to achieve the priority and high-efficiency development goals of the manufacturing enterprise itself.

2. Healthy Operation Mechanism of Innate Immune System

2.1. Research Hypothesis

Following Lu Ping et al.'s related research on "tissue immunity", Sun Panshi et al. also further carried out related research on "innate immune function" and determined that the realization of innate immune function depends on quality resources and quality culture. Innate immunity refers to the innate immune behavior, which is a defense mechanism gradually formed in the process of continuous evolution and improvement of the body. If the quality improvement team of a manufacturing company wants to ultimately achieve the goal of quality improvement for the company and enhance its competitiveness, it should first maintain the health of its own team's immune system. Therefore, this article will start from the perspective of innate immunity, which is the basis of corporate immune response, and conduct research on the two major elements that

constitute innate immune function, namely quality resources and quality culture. Resource refers to the general term of various material elements possessed within a certain range. Quality resources refer to valuable resources that bring competitive advantages to enterprises and are directly controlled by enterprises, including internal and external resources. The quality resources of an enterprise constitute the most basic element to ensure product quality, and are also the work basis and guarantee conditions for quality management activities. Nowadays, there are various definitions of cultural concepts, and further, the concepts of quality culture are also different. Combined with the research of many scholars, quality culture is an organizational culture that focuses more on "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 enterprise, and ultimately affecting the high-quality development of the organization [2,10]. Whether it is quality resources or quality culture, their existence is ultimately to maintain the quality and safety of the manufacturing company itself. For the quality improvement team of a manufacturing company, rich quality resources and advanced quality culture can significantly strengthen the team's immune system State of health. From this, hypotheses can be made:

H1: Abundant quality resources and advanced quality culture have significantly strengthened the immune system health of the quality improvement team.

In recent years, the status of information sharing in enterprises has gradually improved. Further, people's research on information sharing is also gradually deepening. Information sharing has now become a key factor for the success of business management [11]. Information sharing refers to the effective transmission and sharing of information and products between all levels and departments of an enterprise to solve problems caused by improper resource allocation among enterprises, effectively save resource costs, and improve enterprise benefits [12,13]. Just as quality resources include internal and external resources of an enterprise, corporate information sharing also includes internal and external information sharing [13]. Whether it is the internal information sharing between various departments and levels within the enterprise or the external information sharing between the enterprise and the external environment, the ultimate goal is to achieve the high-quality development of the enterprise. Therefore, the importance of information sharing is self-evident. It is extremely important to promote the development of the entire enterprise. Good information sharing is conducive to meeting the information needs of various departments and levels of the enterprise, thereby regulating the imbalance of information among enterprises, and realizing the enterprise efficient development. Conversely, if the information is not shared well, it will cause problems such as information asymmetry or incomplete information, and in severe cases even the "bullwhip effect" [14-16]. It can be seen that information sharing plays a key role in realizing the efficient development of enterprises. The realization of information sharing can effectively improve the imbalance and incomplete distribution of quality resources in the inherent immune system of the quality improvement team, thereby enhancing the team's ability to maintain the health of its own immune system. Based on this, the following assumptions can be made:

H2: Quality resources play an intermediary role in the positive impact of information sharing on the health of the immune system.

Employee motivation is a topic that companies should always pay attention to. Nowadays, the competition among enterprises is more competition among talents. Therefore, in many practices, enterprises have become more and more aware of the importance of talents, and there are talents for development, and the advantages of talents are the advantages of enterprises [17]. Only by retaining employees, continuously stimulating their enthusiasm for work and their own potential, so that they actively invest themselves in their work, combined with corporate development goals, can we work harder to create benefits for the company and promote its development [18]. Therefore, in order to

retain employees, companies need to take effective measures to implement employee incentive systems. To put it simply, "employee motivation means that the company adopts various effective measures to implement rewards and punishments to satisfy or restrict the needs of employees to varying degrees, so as to stimulate and guide the needs, motivations and desires of employees, so as to make employees no matter what. Both mentally and practically remain active, give full play to their own effectiveness, and fully cooperate with the process of achieving the expected goals of the enterprise [17]". At present, my country has become a big manufacturing country, and the development of manufacturing enterprises needs to highlight the advantages of talents and continuously optimize the talent structure. In the process of enterprise development, the incentive system is undoubtedly the key catalyst for enterprises to attract and retain high-quality talents [19]. It can be seen that employee motivation occupies an important position in enterprise development. Employee motivation can be said to be one of the manifestations of corporate quality culture. Effective employee motivation directly drives the improvement of corporate quality culture and further enhances the health of the inherent immune system of the corporate quality improvement team. From this, hypotheses can be made:

H3: Quality culture plays an intermediary role in the positive impact of employee motivation on the health of the immune system.

Team conflict is one of the manifestations of team characteristics. It refers to the incoordination and contradiction of emotional relations and work tasks between team members or organizations due to the incompatibility of their respective goals, ideas, concepts, etc. [20-22]. The impact of team conflict on organizational health is uncertain [23]. Through the research of Chen Weizheng and Wang Xingqiong [24], team conflict has a positive impact on corporate organizational health; on the contrary, through Patterson [25], the unresolved Conflict negatively affects corporate health. Further, according to the research of related scholars, there are two different manifestations of team conflict, which are generally divided into task conflict and relationship conflict [26]. Among them, task conflicts pay more attention to work, and relationship conflicts pay more attention to people. A large number of empirical studies have shown that in team management, task conflicts mostly provide positive effects, while relationship conflicts mostly provide negative effects. Team conflict runs through the entire process of team management and plays a regulatory role in the impact of quality resources and quality culture on the health of the immune system. Therefore, based on the above studies, team conflict will affect the health of the team's immune system, and task conflict has a positive impact. The team's immune system is healthy; relationship conflicts negatively affect the team's immune system health. Based on this, the following assumptions can be made:

H4: Team conflicts play a regulatory role in the relationship between quality resources and quality culture and immune system health.

H4a: Task conflict plays a positive role in the relationship between quality resources and quality culture and immune system health.

H4b: Relationship conflicts play a negative role in the relationship between quality resources and quality culture and immune system health.

2.2. Theoretical Framework

Combining the above research hypotheses, according to the attributes, characteristics, location, function of each variable, and the relationship between each variable, the mechanism of action, the intensity of action, etc., this article discusses the health of the inherent immune system of the quality improvement team of the manufacturing company. Operation mechanism research can propose the following research model, as shown in Figure 1.

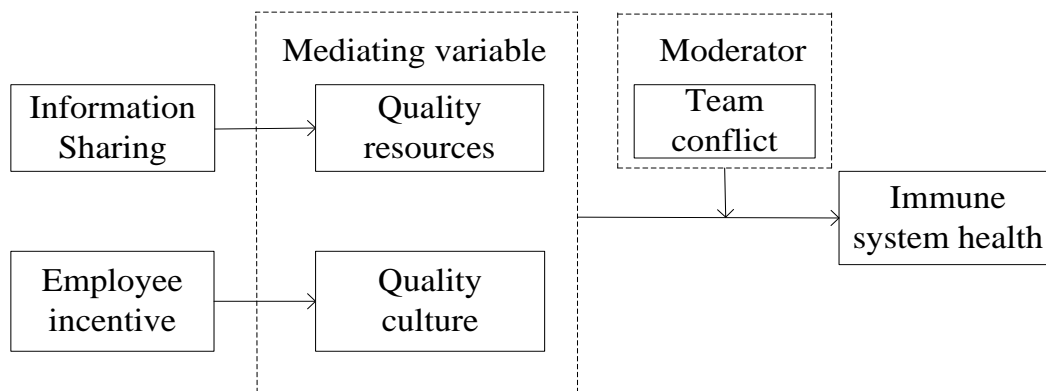


Figure 1: Theoretical conceptual model

3. Conclusion

In the increasingly competitive social environment, manufacturing companies must have a certain quality advantage in order to be more likely to win. "Quality" is the last word, which also drives the formation of a key position in the internal quality improvement team of manufacturing companies. The quality improvement team can quickly achieve quality improvement goals, gain a competitive advantage, and ensure the normal survival and efficient development of manufacturing enterprises. From the perspective of biological immunity, this article combines the concept and mechanism of biological immunity, takes the quality improvement team of manufacturing enterprises as the research object, and takes innate immunity as the starting point to carry out research on the healthy operation mechanism of the innate immune system of the quality improvement team of manufacturing enterprises. The pre-dependent variables are selected as information sharing and employee incentives; the mediating variables are the constructive elements of organizational quality inherent immunity, namely quality resources and quality culture; the moderating variables are team conflicts; the outcome variable is the immune system health, which is configured through the combination of all parties. Construct its theoretical model and study its operating mechanism. The study of this mechanism of action not only helps the quality improvement team of the manufacturing enterprise to improve the defects and deficiencies of its own innate immune system, but also helps the enterprise team to efficiently maintain the health of the innate immune system. Innate immunity is the basis of immune response and the foundation of maintaining the health of the team. Therefore, the quality improvement team of a manufacturing company first needs to enhance its own immunity, maintain its own innate immune system health in order to maintain the normal operation of the team, and then achieve the corporate quality improvement goal, Enhance the competitiveness of enterprises.

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