Innovation of Product Quality Supervision--From the Perspective of Standardization

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Abstract. Product quality supervision is the basic means to promote the production of products and operators to improve product quality. Standardization, as an institutional tool for the modernization of national governance system and governance capacity, has been paid more and more attention in recent years. In practice, standardization has been integrated into all aspects of economic and social development. This paper is based on the perspective of standardization. The research status of product quality supervision is analyzed. The status quo of standardization of product quality supervision is reviewed. On this basis, the innovation path and method of product quality supervision are put forward from the perspective of standards, which can provide reference for better exerting the role of standardization in product quality supervision.

Keyword: Product Quality, Standardization, Supervision, Standard

1. Introduction
Quality is an important foundation of economic and social development, and economic development cannot be separated from quality development [1]. Product quality supervision is the basic means to promote the production of products and operators to improve product quality. It is an important measure for the state to supervise and manage the quality of products from a macro perspective. The objects of product quality supervision include products, services, quality system, production conditions, relevant quality documents and records etc. Product quality supervision is an important part of market supervision and an important measure to promote the development of high quality in the new era. According to international practice and China's reality, China's product quality law has established product quality supervision and management institutions, product quality supervision and management system and corresponding measures and methods. Standardization, as an institutional tool for the modernization of national governance system and capacity, has always been highly valued by the Party Central Committee and the State Council. Practice in many fields shows that standardization is an effective institutional arrangement to promote its high-quality development. In the field of product quality, standardization plays an important leading, supporting and basic role. In
terms of product quality supervision, standardization plays an important role in regulation and coordination. To regulate the mechanism of product quality supervision by means of standardization not only improves the efficiency of product quality supervision, but also ensures that the product quality can be supervised scientifically and effectively. This paper is based on the perspective of standardization. The research status of product quality supervision is analyzed. The status quo of standardization of product quality supervision is reviewed. On this basis, the innovation path and method of product quality supervision are put forward from the perspective of standards, which can provide reference for better exerting the role of standardization in product quality supervision.

2. Research status of product quality supervision

Product quality has become a key factor reflecting the comprehensive strength of the country, the core competitiveness of enterprises and industries, and the level of national civilization. The overall level of product quality is related to sustainable development, the vital interests of the people and the image of the country. Therefore, It has become a hot area of the current government and the whole society to carry out the rectification of product quality problems, strengthen product quality supervision, curb product quality violations, improve consumer satisfaction, and promote the overall level of product quality in various industries. Under the new normal of economy, the role of product quality in economic growth will be more prominent. Improving product quality is not only the power to speed up economic development, but also the only way to change the mode of economic development. Therefore, the research on the supervision mode of product quality has become a hot issue. Zhang baishang et al. made a systematic study on the Countermeasures of e-commerce product quality supervision. It is considered that the quality supervision of e-commerce products is an objective need to adapt to the booming development of new e-commerce formats. It is the internal requirement to meet the people's growing needs for a better life and the practical need to safeguard the legitimate rights and interests of consumers. Some suggestions are put forward to build a fair competition, a reasonable and orderly market environment, and improve the credit restraint and the joint punishment mechanism for dishonesty. In the aspect of establishing and improving the cooperation mechanism of e-commerce product quality supervision, it is proposed to establish and improve the linkage mechanism of multi department and cross regional law enforcement. Establish the working mechanism of coordination between the top and the bottom, Department linkage, regional cooperation and co inspection, and improve the record and publication system of quality violations. We will improve the mechanism for linking administrative law enforcement with criminal justice, and establish mechanisms for evidence authentication, transfer and information transfer. Wu Xinghui et al. made a systematic study on the application of blockchain technology in product quality supervision. Since 2003, China has been carrying out the gold project, and all provinces in China have responded positively. They have successively built many information application systems in the field of quality, such as administrative licensing, supervision and inspection, inspection and detection, and comprehensive law enforcement, which play an important role in promoting quality management and improving product quality in China. Since the 18th National Congress of the Communist Party of China, higher requirements have been put forward for the supervision function of the government. On the one hand, the government is required to "release, manage and serve" to reduce the burden of enterprises. On the other hand, it is required to improve the effective supervision of product quality and implement quality improvement projects. It is pointed out that relying on the traditional supervision mode can no longer meet the requirements of social development. It is imperative to adopt new technologies such as big data and blockchain to implement the new supervision mode. This paper introduces the application technology of blockchain, and integrates with the corporate image and product image of big data, and applies it to product quality supervision. Liu Shunliang made a systematic study on the quality supervision strategy in the construction management. It is pointed out that the engineering quality management has an important influence on the engineering construction quality. It is necessary to pay attention to personnel arrangement, clarify post responsibilities, and strengthen the quality control of engineering construction materials. Project quality supervision is the
key to ensure project quality, and plays an important role in construction management. However, there are many contents involved in project quality supervision, which are easily influenced by many factors. We should pay attention to the supervision of engineering quality, promote the innovation of the supervision mode of engineering quality, so as to provide an important guarantee for the quality and efficiency of the supervision work of construction engineering.

3. Standardization of product quality supervision
In recent years, with the party and the state attaching great importance to standardization, standardization has gradually become a basic system tool in China. Standardization is constantly promoting the modernization of governance system and governance capacity, and has been integrated into all aspects of China's economic and social development. In terms of product quality supervision, standardization is also playing a positive role in promoting product quality and supervision efficiency. Wang Li and others [6] systematically studied the current situation of quality standardization management, analyzed the existing problems, and put forward measures and suggestions to optimize quality standardization management and improve quality supervision efficiency. With the development of China's market economy, quality standardization management has become more and more important. The government has gradually strengthened the supervision of the product quality of production enterprises. However, there are still some aspects to be optimized in the process of quality standardization management. How to optimize the quality standardization management and improve the quality supervision efficiency is an urgent problem for the relevant departments. Quality standardization management is related to people's living standard and quality. To do well in quality standardization management, government departments need to take responsibility, strengthen the attention to quality standardization management, avoid fake and inferior products entering the market, and maintain a good market environment. Standardization is gradually emerging in the field of product quality supervision and is playing an increasingly important role. However, the standardization degree of product quality supervision is still not high, and further research and improvement are needed. First, the product quality supervision standard system is not perfect. There is no comprehensive and systematic product quality supervision standard system, which restricts the improvement of standardization efficiency. Second, the combination of product quality supervision and standardization is far from enough. The purpose of standardization is to obtain the best order within the given scope and promote common benefits. The main benefits of standardization are to improve the applicability of products, processes or services for their intended purposes, and to promote trade, exchange and technical cooperation [7]. For product quality supervision, standardization is the basis and guarantee to promote the standardization of product quality supervision. We should use standardized means to consolidate and deepen the results of product quality supervision, optimize and improve the quality of product quality supervision, prevent and eliminate loopholes in product quality supervision, and improve the level of product quality supervision. Third, the product quality supervision departments or personnel have weak awareness of standardization and are unclear of the role of standardization. Product quality supervision is relatively broad. Some supervision loopholes have been created, leading to the entry of products below the quality standard into the market, disturbing the market order and harming consumers in the implementation of product quality supervision.

4. Product quality innovation supervision path and method--From the perspective of standardization
Based on the above analysis, in order to innovate the path and method of product quality supervision and better play the role of standardization. From the perspective of research, the paper puts forward the following paths and methods of product quality innovation supervision.

4.1 Speed up research and build a systematic and comprehensive product quality supervision standard system
According to the current situation and demand of standards in the field of product quality supervision,
it is necessary to build the product quality supervision standard system framework guided by national standards, industry as the main body and supplemented by group standards according to business areas. This standard system should focus on the development of product quality supervision and be based on the industry framework. And constantly fill in, improve and maintain the standard system according to the existed standards. Standard system is not only an effective supply of standards for product quality supervision, but also the layout and planning of product quality supervision standardization, which can effectively guide the product quality supervision at a certain stage.

4.2 Promote the combination of standardization work and product quality supervision work, and innovate supervision paths and methods
Various vivid practices of standardization show that standardization plays a supporting and leading role in all aspects of economic and social development. Therefore, it is necessary to promote the combination of product quality supervision in standardization work month, carry out the work in an innovative way, and constantly put forward new paths and methods of product quality supervision, so as to form the "standardization plus" effect. To improve the quality of product quality supervision, first of all, we should promote the improvement of product quality through standardization. We should speed up the formulation of standards needed to ensure and improve the quality of products, fully release the efficiency of standardization, play the role of standardization, and realize the benefits of standardization. In terms of product quality supervision, we should pay attention to strengthening the design of working mechanism with standardized methods to ensure that the process of product quality supervision is more precise, scientific and comprehensive.

4.3 Comprehensively improve the standardization awareness and level of product quality supervision practitioners
The key to carry out the standardization work of product quality supervision is to improve the standardization awareness and level of product quality supervision practitioners. It is conducive to optimizing the regulatory mechanism, reducing regulatory loopholes, and improving regulatory quality and service level. We should strengthen the education of standardization, popularize the basic knowledge of standardization, spread the idea of standardization, and enhance the influence of standardization, so as to comprehensively improve the consciousness and level of standardization of product quality supervisors.

5. Conclusion
Product quality supervision is closely related to people's life. To do a good job in product quality supervision, we need to further give play to the supporting and leading role of standardization in order to create a better market environment. Standardization is not only the technical rule of human beings, but also the institutional tool to improve governance ability and governance level. Strengthening the combination of product quality supervision and standardization will produce strong benefits and help the product quality supervision work to be more scientific and efficient.

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References
[1]. Ma Jin. Role of Certification and Accreditation in Quality Governance [J]. Journal of inspection and quarantine, 2019(3) (in chinese).
[2]. Liu Changyu. Research on the influencing factors and Countermeasures of regional product quality supervision [D]. Shandong Normal University (in chinese).
[3]. Zhang Baishang, Tang Pan, Feng Jun. Research on the Countermeasures of quality supervision of e-commerce products in the new era [J]. Productivity research, 2019(6) (in chinese).

[4]. Wu Xinghui, Kang Dugang, Liang Na, Fang Lizhen. Application of block chain technology in product quality supervision [J]. Information security and technology, 2018(4) (in chinese).

[5]. Liu Shunliang. Effective strategies for strengthening engineering quality supervision in building management [J]. Shan Xi Architecture, 2018(2):240-241(in chinese).

[6]. Wang Li. Quality standardization management and improvement of quality supervision efficiency [J]. Light industry standard and quality, 2019, 164(2):47-48(in chinese).

[7]. General Administration of quality supervision, inspection and Quarantine of the people's Republic of China, China National Standardization Management Committee. GB/T 2000.1-2014, Guidelines for standardization—Part 1: Standardization and related actives –General vocabulary[S](in chinese).