

Research on the Optimization of Quality Management System for Public Welfare Inspection and Testing Institutions under Restructuring Framework

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Abstract: As an important measure to improve the governance of the inspection and testing industry, the restructuring reform pays attention to improving the public welfare nature and service level of public welfare inspection and testing institutions by means of resource integration and function transformation and institutional innovation. Based on the policy framework and practical requirement of restructuring reform, this article mainly talks about how to improve the quality management system of public welfare inspection and testing organizations. In terms of the problems in four parts of institution connection, resources configuring and also technologies integrate+service level improve and so on other key issues deeply analyze system significant to the optimizing and then put forward a comprehensive chain optimize way like standardizing aligning, processes reconceptualize constructing strength increase as well as protection from risks.

Keywords: restructuring reform, public welfare inspection and testing institutions, quality management system, ISO/IEC 17025

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1 Introduction

Market oriented reform is getting deeper, industrial supervision keeps getting stricter, public welfare inspection and testing organizations have to face many kinds of pressure: expanding the range of services; higher and higher level of technical requirements and stricter supervisory regulations. Traditional quality management system have to innovate and adapt for restructuring reform needs, as well as carry out systemic optimization of the institution, process, resource etc. When there is an environment like that, one should do systematic study and analyze about some important parts and elements concerning a structuring reconstruction plan; furthermore, it also needs doing about research into ways to improve quality management system among public welfare checking and testing company. By means of all kinds of theoretical analysis and targeted research, it is intended to establish a quality management model which fits for the purpose of reform and has conformed with public welfare function as well as industrial standard. And this model embodies all the reforms and guidelines, adapts to the nature of public welfare organizations, it is constantly updated for applicability in practice.

2 The Meaning of Optimize Quality Management System for Public Welfare Inspection and Testing Organizations under the Restructuring Reform.

2.1 Policy Implementation, Institutional Coordination Cannot Be Ignored:

Rebuilding mandates: The public welfare inspection and examination institutions should merge their resources, adjust the whole layout of institution and emphasize public welfare. Optimize quality management systems have become some kind of institutions, which can guarantee to implement reform policy well. It has combined the deep-level reform requirements and standard systems as one. During the process of institutional function reorganization and resource combination, Quality Management Systems must link up with the state's policies as well as industrial guidelines geared towards encouraging the quality improvement in the inspection and testing business. In order for the goal of improving the public welfare characteristic to become a reality, it is transformed into practical standards about quality control and procedures; so as to make sure that organizations comply with high quality criteria in their work, and keep offering standardized public service continuously while making changes on businesses or rearranging employees^[1].

2.2 Core Support of Public welfare Attribute Strengthenment and Enhancement of Services;

The core function of public welfare inspection and testing organizations is to provide society with honest, unbiased and effective public service, this determines what they are all about as well as their social responsibilities. The constant improvement of quality management system is an important way to solidify the public welfare attribute and improve the level of service quality. Background against restructuring reforms, the range of services offered by these organizations is not limited to just products' quality inspections and metrological checks but also covers various areas like safety in people's lives, industrial improvement and environmental protection^[2].

Furthermore the quality management system is also improved by using modern concept such as process simplification, service innovation etc. In-depth application of advanced management philosophy greatly improve the efficiency of operation and decrease time cost, economic cost, energy cost of service recipients and achieve high level and high quality public services. ^[3].

2.3 An Essential Part of Industrial Standardization and Continuous Progress

As for the accelerating standardization and normalisation of the inspection and testing business, combined with restructuring reform going deep, it's leading to a complete transformation and upgrading of public welfare type of institution for inspection and tests. Quality management system is essential to play a foundation part which makes the institution adapt with industrial trends and long-term sustainable

development, also it could be regarded as an important element for improving core competitiveness under new circumstances of markets^[4].

To strictly comply with the international standard, industrial specification, so that it can be consistent with the highest quality standard in the world, improve professional recognition and competition power as well as cross region and field public services. A renowned standard quality management system will be able to enhance an organization's trustworthy and dependable image, it can serve as excellent ground for either working along with many different partners or establishing some sort of reputation^[5].

Furthermore, setting up a good ongoing improvement process is very important to make the system better. As a critical element of strategy it is necessary for the organization to be able to keep pace with technology, standards and reform by updating itself in a timely fashion. The Institutional dynamic on our objective is to make it easier for us to manage, upgrade technology as we go but in this situation its always qualitative.^[6]

2.4 The key path to modernizing our governance capacity, and also avoid operational problems.

When performing public welfare work, public welfare inspection and testing organizations face many different kinds of complicated risk like technical risk, Compliance Risk and reputation risk. Functioning adjustment and function resource integration is even more necessary for risk management and control as we are still in reform process^[7]. On account of total quality management system, we could form up some sort of risk safeguard and restrain through the entire procedure from all angles; incorporated acknowledgment and appraisal into regular inspection and administration as well.

In strict management of certain key links: checking the profession and ability of people at work site, keeping the operation of testing instruments stable, strictly adhering to national and industrial standards for technology, reinforcing the examination and monitoring of records made by data as well as issuing statements. Tightly link quality inspection with the whole eradication of latent dangers like improper actions, fabricating test results etc., so that government officials as well as the general public can maintain trust in testing and verification enterprises^[8].

Optimize the management system, optimize operation specifications to remove all the gaps and mistakes in management due to unclear responsibility and messy process. so that public welfare inspection and test institution can keep on performing their public welfare function, offering quality and credible inspection and test service to the social development^[9].

3 Quality management system improvement in public welfare company based on formative reform model

3.1 Standard Alignment: Building up an Educational Institution System according to a new reform orientation:

Public welfare inspection and testing companies are undergoing transformational changes, quality management system improvements must begin with a deep level of compliance with the standards and regulations set forth by industries. ^[10]With an emphasis on institution building, quality control foundation should be firmly laid to cope with the reform.

Predictive policies get things ready to be following the regulations for doing work: Guided by the standards of industrial supervision, a quality management system will grow along with the industry, thus keeping institutional development standard and excellent as transformation takes place. In order to strengthen professional compliance, it is necessary for all institutions to include the provisions concerning the authorization of statutory metrological and the assessment standard of the agricultural product safety testing institution in system document^[11] Apart from documentary incorporation, targeted operations procedure and carrying-out rules must also be established such that regulations may still hold.

3.2 Process reconstruction, building an effective control together with public welfare service along side public welfare services:

Process reengineering is an important part of improving the quality management system of public welfare inspection and testing organizations under transformation. By way of simplification, integration and optimization of processes to improve the efficacy of quality control and cater to various needs for public welfare services. According to the reform ideas of one-stop service and centralizing resources, institutions need to get rid of the old decentralized mode, construct an centralized and effective quality control system. Centralized, coordinated and efficient^[12].

If we need standardized and normalized test procedures, we must reduce all unintentional human interference in the regular inspections. The differences due to personal experiences, professional skills and personal judgments cause different test results for the same situation ^[13].

We should create a multi level review mechanism so as to conduct verifications and produce reports in order to enhance quality control through layer by layer supervision on testing data and drawing conclusions, making sure that the last issued report is scientific and authoritative^[14]To make public welfare services easier to access, we will simplify the approvals and shorten the service process so that people can receive results quickly. Those online platforms which can make a report by themselves, and spread it out instantly need very little amount of effort; hence they will also respond very quickly.

3.3 Capacity building— the supporting bit has got to be sturdy enough for the whole thing to run smoothly

For quality management system to operate effectively and stably, it must have strong institutions. ^[15] Facing transformations, in public welfare inspection and test organization, they have some chance but also many hindrances before them. It needs the construction of comprehensive capabilities including talent teams, business upgrade, equipment renewal if we want to deal with reforms. Building a good quality system must have strong basic ability; otherwise, the institution will not be able to function properly for any amount of time:

As anyang product quality inspection and testing center do as they have been cooperating with Chinese society for metals ,anyang institute of technology, transforming research results such as "FUSION GLASS BEAD METHOD TO DETERMINE IMPURITY ELEMENTS OF INDUSTRIAL SILICON ",turn it into test standard included in quality management system. When creating techs it's important that they are correctable and believable by being ready to give a customized tech help to advance the industry.

3.4 Risk Prevention and Control: Optimizing an Alignment Dynamic Management Mechanism of the Public Welfare Responsibility.

Risk prevention and control is an important part of improving the quality management system. Among transformative reforms, public welfare inspection and testing organizations face new problems, thus it is necessary to set up a risk prevention and control system that is very consistent with public welfare obligations^[16]. Having a good risk management system can guarantee the stable operation of our systems and dependable public welfare services as expected by society.

There must be an usual risk monitor^[17]. Use multiple supervision methods such as the internal audit which will check for operations problems internally, management review which assesses everything on a big picture strategic level, and customer feedback to find hidden flaws in what we are doing, use them all at once to constantly watch out for any changing problems. Risk is identified in good time for it to be prevented before problems arise.

3.5 Digital empowerment is to build a digitalized platform which can meet the needs of today's modern governance.

And it is also found to have digital empowerment as one of the dominant trends affecting on how well public welfare inspection and testing institutions that are undergoing transformation^[19]. In digital system we can collect test data automatically so there won't be any error like read deviation and miss typing. We will have a genuine and whole set of test data. Big data analysis can support in-depth mining to find any hidden problems with the quality control workflow and think about how we can make it better, using facts from data.

In terms of digital traceable systems can provide exact origin proof for verification of results, it allows fast discovery on the reasons behind unusual data or operations and supports reforms with integration through the connection between different types of materials as well as labs by sharing data among all business departments. Hengbao company is like the Hohhot inspection and testing center, it uses a fragmental quality information which after being integrated by the traceable system can give back right data help to do internal checkup or outside review. To meet the requirements of high quality public interest litigation handling, to make the test data traceable can enhance the credit of public welfare service. Digital Traceability system is really far, orderly and can improve on both quality supervision and administration efficiently.^[20]

3.6 collaborative linkage setting up a compatible and joint support outside the school of reformation and development:

If it is transformative, then we must not only upgrade our entire internal quality management system, but also build a robust and effective link with the outside world. And public welfare inspection and testing organizations are doing close work with other outside organization, this will have a great atmosphere on the internal systems growth, which is very useful for building quality management as strong protection from the outside, achieving best quality in all levels of management.

Furthermore, deepen the industrialization of cooperation between industries, universities and research institutes to do a full study on quality management technology, take part in making standards so as to set up certain bases of standardization for quality management. Talent working together to strengthen and form a group of people for constant quality development.

3.7 Continuous improvement - As for establishment of a loop so as that there can be always improvements together with the dynamic development

Continuous improvement is a main rule in quality management system, it is both a fundamental theory to follow as well as a specific action guideline in quality management system. It helps organizations keep their edge and be prepared for changes in the internal and external environment even as things are always changing. With respect to rapid socioeconomic development all organizations have to strive for continuous improvement so as to make their processes more efficient, improve productivity and satisfy the stakeholders. Within this whole reform restructuring framework, such as public welfare inspection and testing organization face both rare chances and difficulties at present moment; thus, they should attach more importance in improvement work all the time, establishing scientific, system and circular optimization mode:

4 Conclusion

With further progress of the restructuring and long-term development of the inspection and testing industry, quality management systems will have more tasks and challenges to deal with in the coming days. The exploration into the next direction will have a lot more aspect that could be researched in this topic, in the further research on how we apply AI, big data to do quality control making it better and smarter. Also look at coordinated governance for quality between region and industry when doing public inspection cooperation to form a set of industrial wide common standards of Quality Control System that will also be cooperate across industries; Do special research for those related field like emergency testing, brand new emerging industries testing etc.. And develop different types kind of plan regarding the characteristic of each type kinds of industries.

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